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School Board Journal

A PERIODICAL OF SCHOOL ADMINISTRATION

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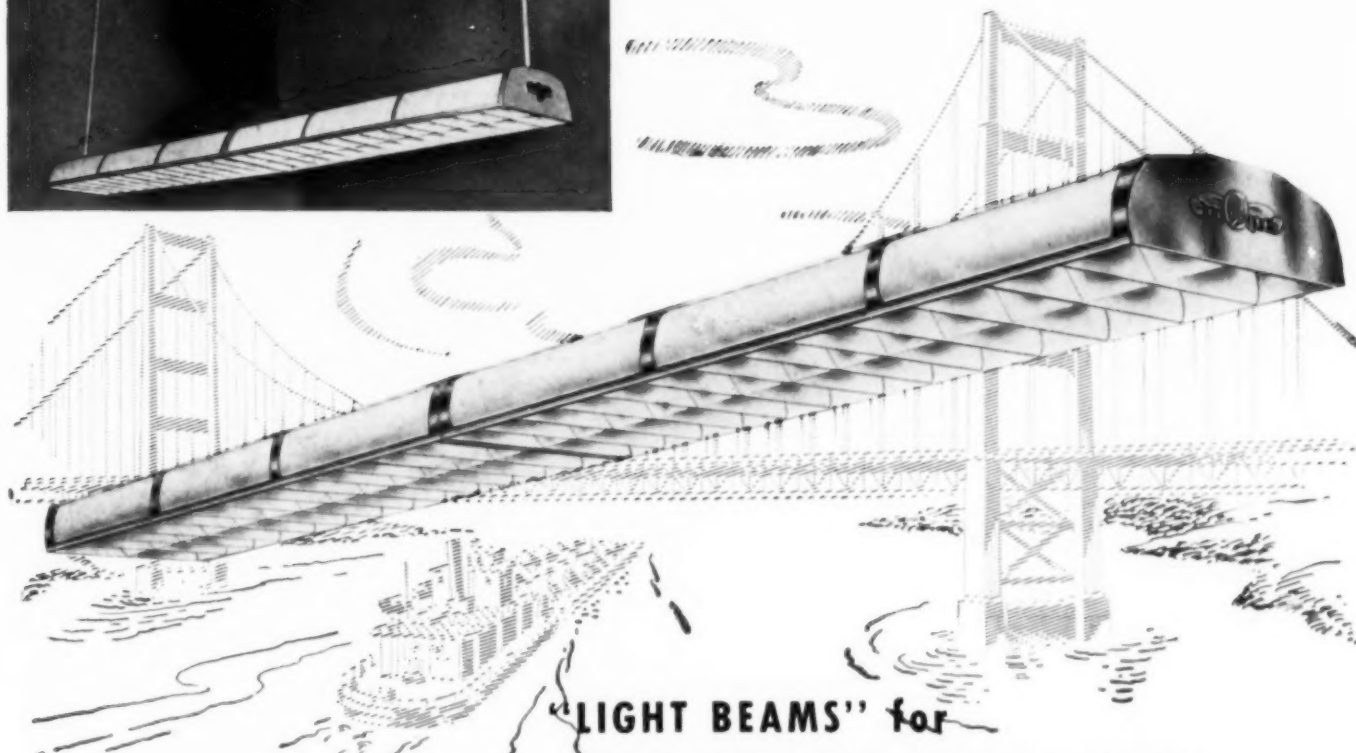
VOLUME 120, NUMBER 1

JANUARY, 1950

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THE AMERICAN
School Board Journal
A PERIODICAL OF SCHOOL ADMINISTRATION

Devoted to the Interests of School Boards, Superintendents,
School-Business Officials, and School Architects



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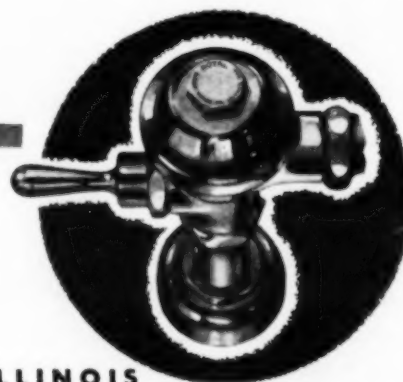
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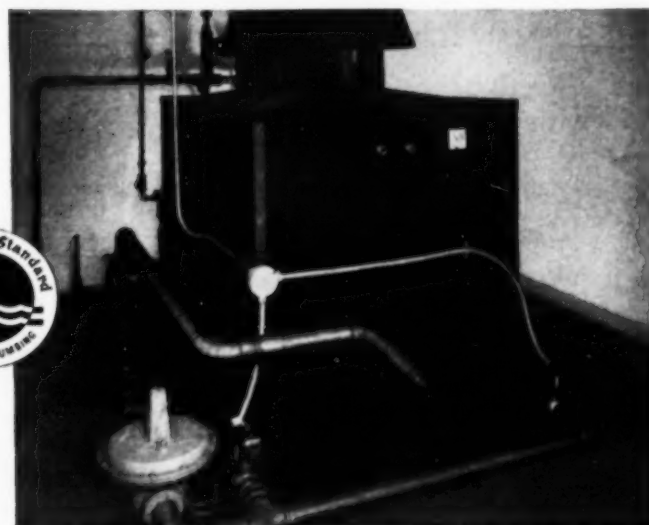
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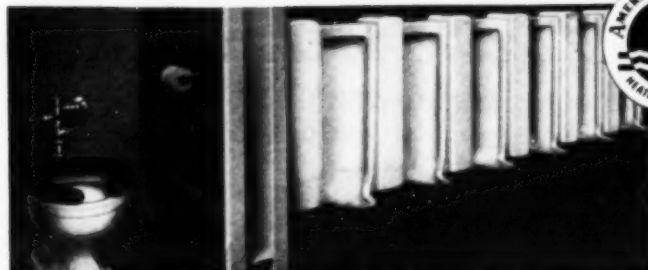


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Floor of MFMA Northern Hard Maple in the Jericho, Long Island, N. Y. Grade School. Architect, Howard S. Patterson, New York. Photograph, courtesy Anemostat Corp. of America, New York.

that are brighter, longer lasting, *truly resilient* NORTHERN HARD MAPLE

Fortunate indeed, if your plans for long-needed school construction are maturing now, when Northern Hard Maple Flooring is once more available in abundance! Today you can specify this favorite school floor material freely, throughout your new school from gymnasium to cloakrooms.

Tough, tight-grained, clean, Hard Maple, so happily *modern* in its cheerful brightness, so truly resilient, fights the scuffs and scampers of generations of active feet! How well it meets the highest architectural standards for endurance, never-splintering smoothness, easy finishing and low-cost maintenance! How well it has earned its nation-wide esteem as the finest floor for schools that Nature or Science has produced!

ANOTHER ECONOMY! Without sacrifice of wear or strength factors, you can specify **MFMA** Second Grade Maple Flooring at a substantial saving. The varying shadings allowable in Second Grade, by **MFMA** strict grading regulations, add beauty and interest. In severest service—classrooms, gymnasiums, auditoriums, shops, cafeterias, corridors, offices—it will endure as long as your building. Remember, "there's always a new floor underneath" with Northern Hard Maple . . . and resurfacing is so simple.

Ask your architect about **MFMA** (trade-marked) Northern Hard Maple in strips or patterned designs. See Sweet's, Section 13/g/6 for catalog data. Write us for list of approved floor finishing products and information on the economical use of Second and Third grades of **MFMA** flooring, for schools.



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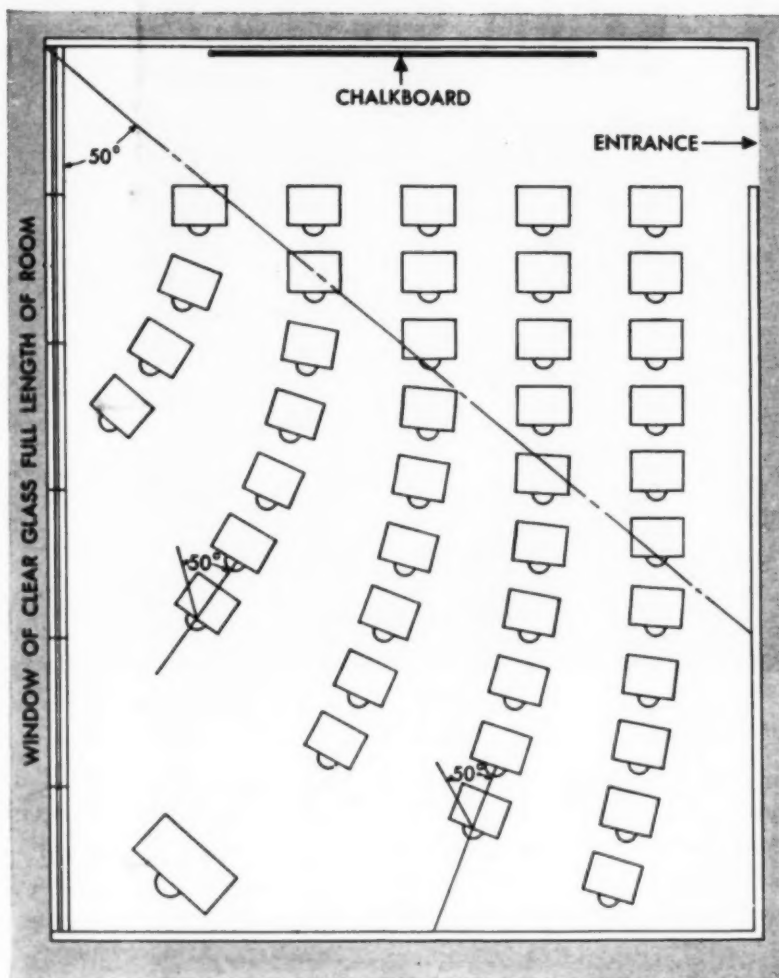
1. Enough Daylight on Every Desk.
2. Avoidance of Bright Spots or Annoying Contrasts.

These two basic aims of good classroom daylighting need not entail expensive materials or techniques. That has been proved by two years of comprehensive research study at Southern Methodist University by Professor R. L. Bieseke, Jr.

By simply using flat glass for high light transmission and using proper reflective interior surfaces, correct daylighting can be had at low cost.

A summary of Professor Bieseke's findings is available to school boards and architects. It includes suggestions for window treatment, selection of glass, shading devices, decoration and seating arrangement. Mail the coupon for your copy.

This diagram shows a room arrangement found beneficial to all students. Windows of clear glass, free from piers, extend from front wall to the back.



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Got Tired "Patching Up" School Heating System



Democracy in action! . . . Board of Education, Salem, N. J., is voice of community of 9,500 in school affairs. Facing camera, left to right: Smith B. Davis, Dr. A. J. Bridgman, Thomas G. Dunn, James L. Lane, Sr., Lewis F. Gayner. With back to camera, left to right: Superintendent Herbert K. England, Jr., Solicitor Joseph Narrow, Clerk Charles P. Sheppard.

In 1945 the Board of Education in Salem, N. J., decided to do something about the "patched up" heating system in their 35-year-old high school. They got tired of complaints like these:

"Had to start boiler at 2 a.m. to have school warm for 9 o'clock classes."

"The old building has to be overheated in order to get heat in the new wings."

"Windows wide open again—no positive means of temperature control."

According to the Board of Educa-

tion, there were four steps in the heating modernization program.

August, 1945 . . . Property Committee asked Warren Webster & Company to survey the heating system and suggest improvements for 1946 budget.

January, 1946 . . . Webster Representative reported on survey of heating system and suggested modernization program.

June, 1946 . . . Property Committee approved Webster Heating Modernization Program. Board of Education voted unanimously to follow Committee's recommendations.



Salem High School, Salem, N. J. Built in 1912. Wings added 1927. Steam heat distribution modernized 1946 with "Controlled-by-the-Weather" Webster Moderator System. Modernization Heating Contractor—William J. Kelly, Inc., Camden, N. J.

October, 1946 . . . Installation of Webster Moderator System with "Controlled-by-the-Weather" Outdoor Thermostat completed by Contractor William J. Kelly in time for start of heating season. The existing stoker-fired coal-burning boiler plant was retained.

As part of the modernization, traps damaged beyond repair were replaced with the latest-type Webster Thermostatic Radiator Traps. Other traps were brought up-to-date with Webster Replacement Thermostats.

With the Webster Moderator System, all sections of the school heat evenly and rapidly. Heat loss from open windows is minimized by the maintenance of comfortable indoor temperatures. The heating-up time is shortened so that boilers fired at 6 a.m. have school warm for 9 o'clock classes even on coldest days.

There is a trained Webster Representative not far from your city. He is available to cooperate with your architect, engineer and contractor in serving *your* Property Committee.

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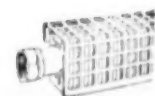
Webster Outdoor Thermostat Control automatically provides the lowest pressure for comfortable inside temperature.



Webster Float and Thermostatic Drip Traps are used on heating coils of air conditioners and drip points of the piping system.



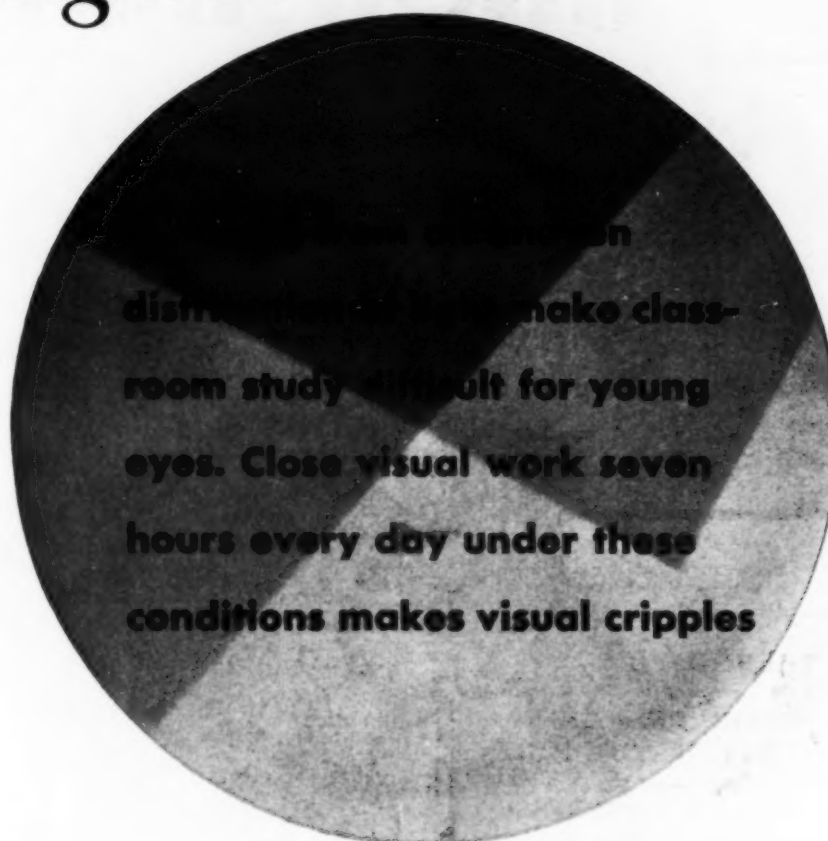
Prefabricated Unit—Webster System Radiation convectors with copper tubing, aluminum fins, integral Webster Traps and Valves.



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The circle tells its own story of a common classroom problem. But shadows are only one of many classroom lighting problems.

Since each classroom lighting situation is different, Westinghouse recommends you take these steps before you select any equipment:

- Analyze the importance of your lighting needs.
- Carefully choose the best equipment for your needs.
- Insist on an engineered plan to fit your needs.

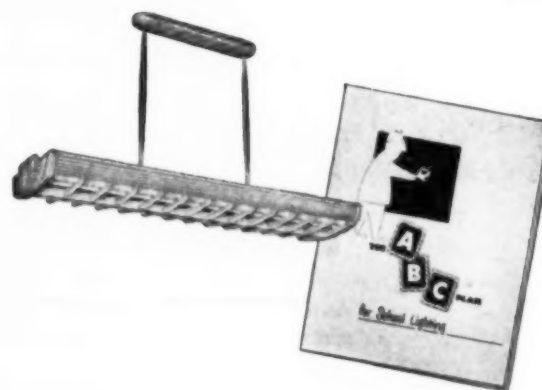
This complete story—a customer's approach to class-

room lighting problems and their various solutions is in the "ABC Plan for School Lighting", B-4556.

Whether you plan lighting—buy lighting—or install lighting, this book should be on your desk. Ask any Westinghouse representative or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa.

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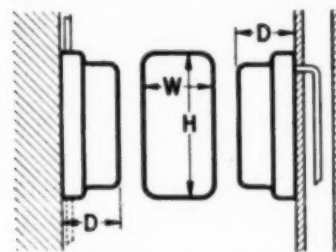


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Valve Top Diameter 4-1/4"



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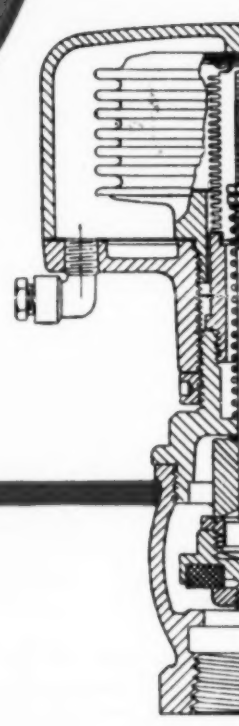
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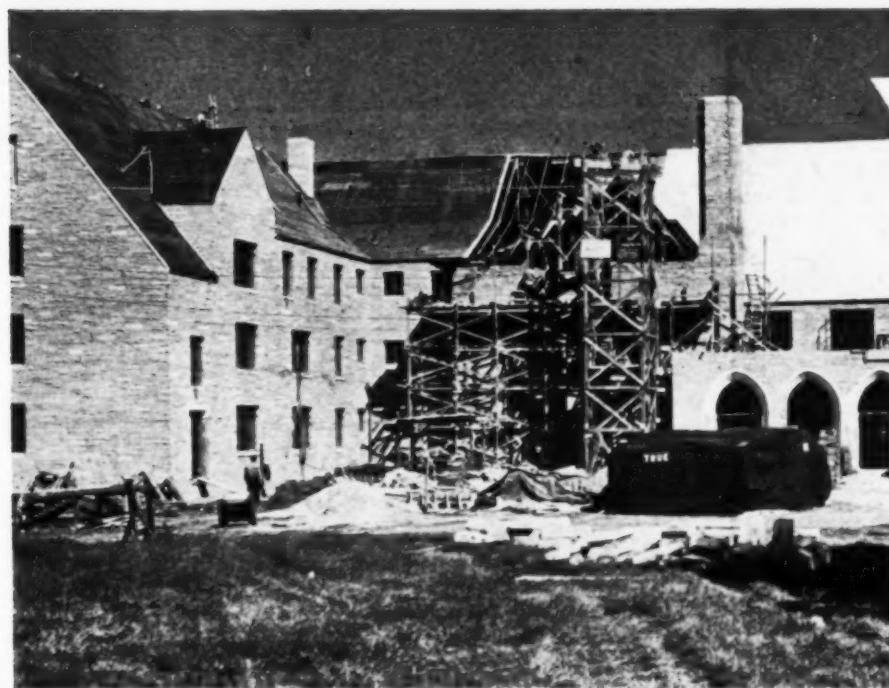


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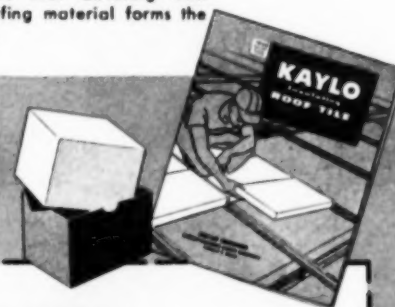
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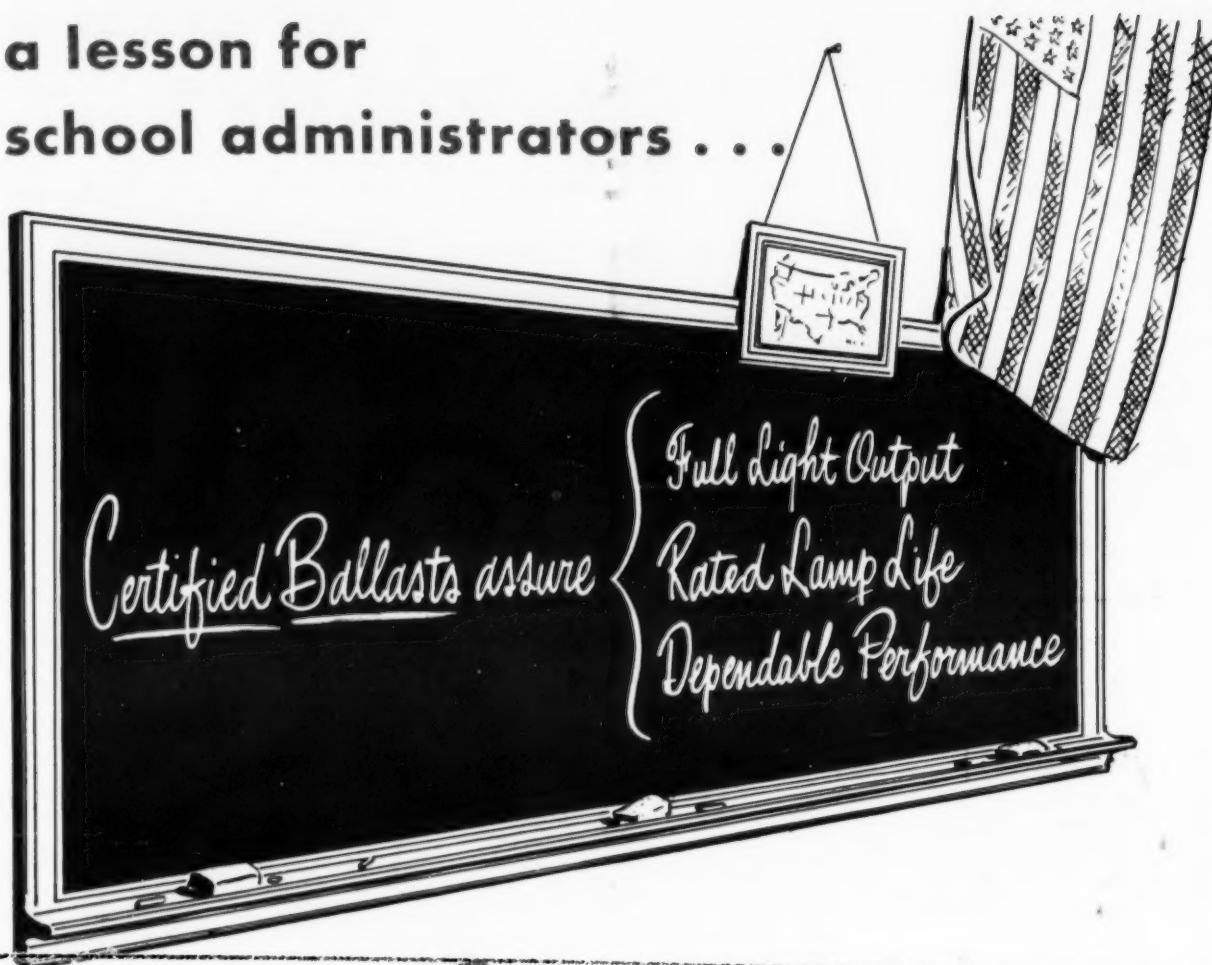
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a lesson for school administrators . . .

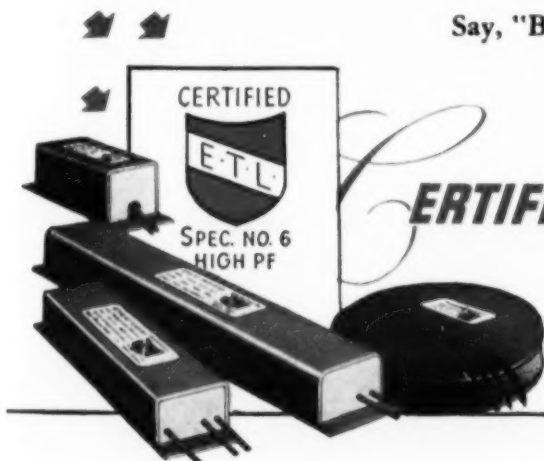


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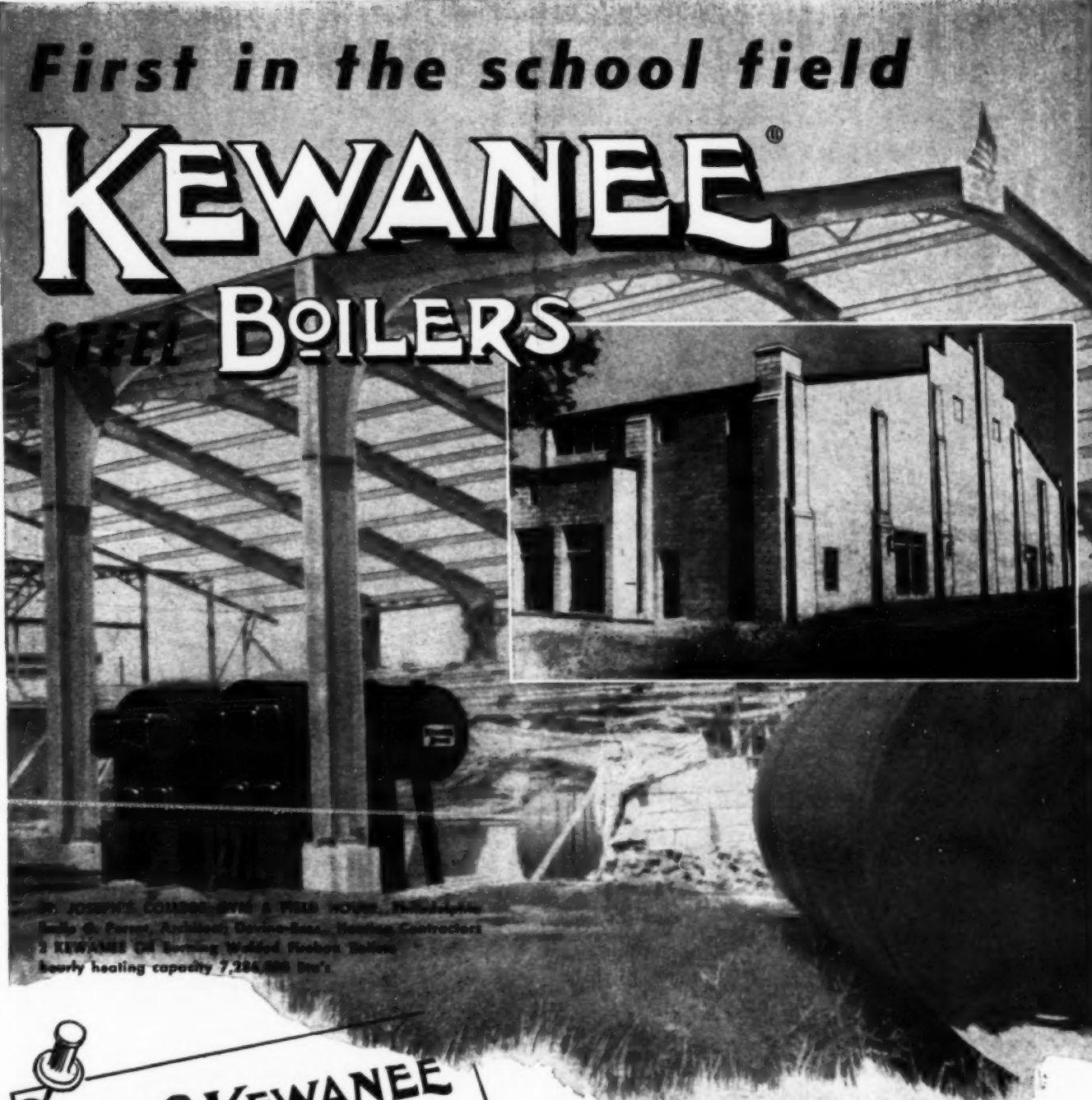
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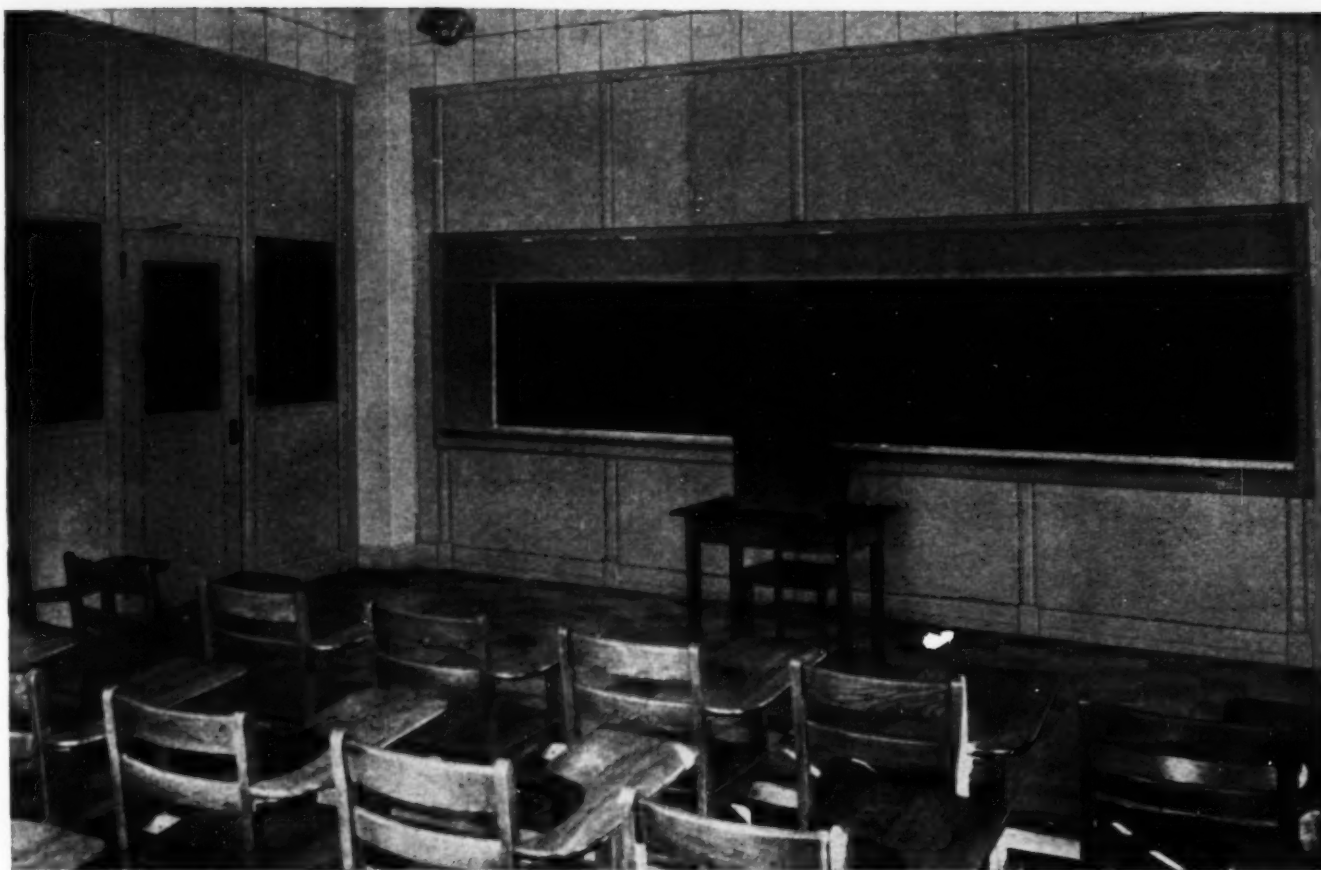
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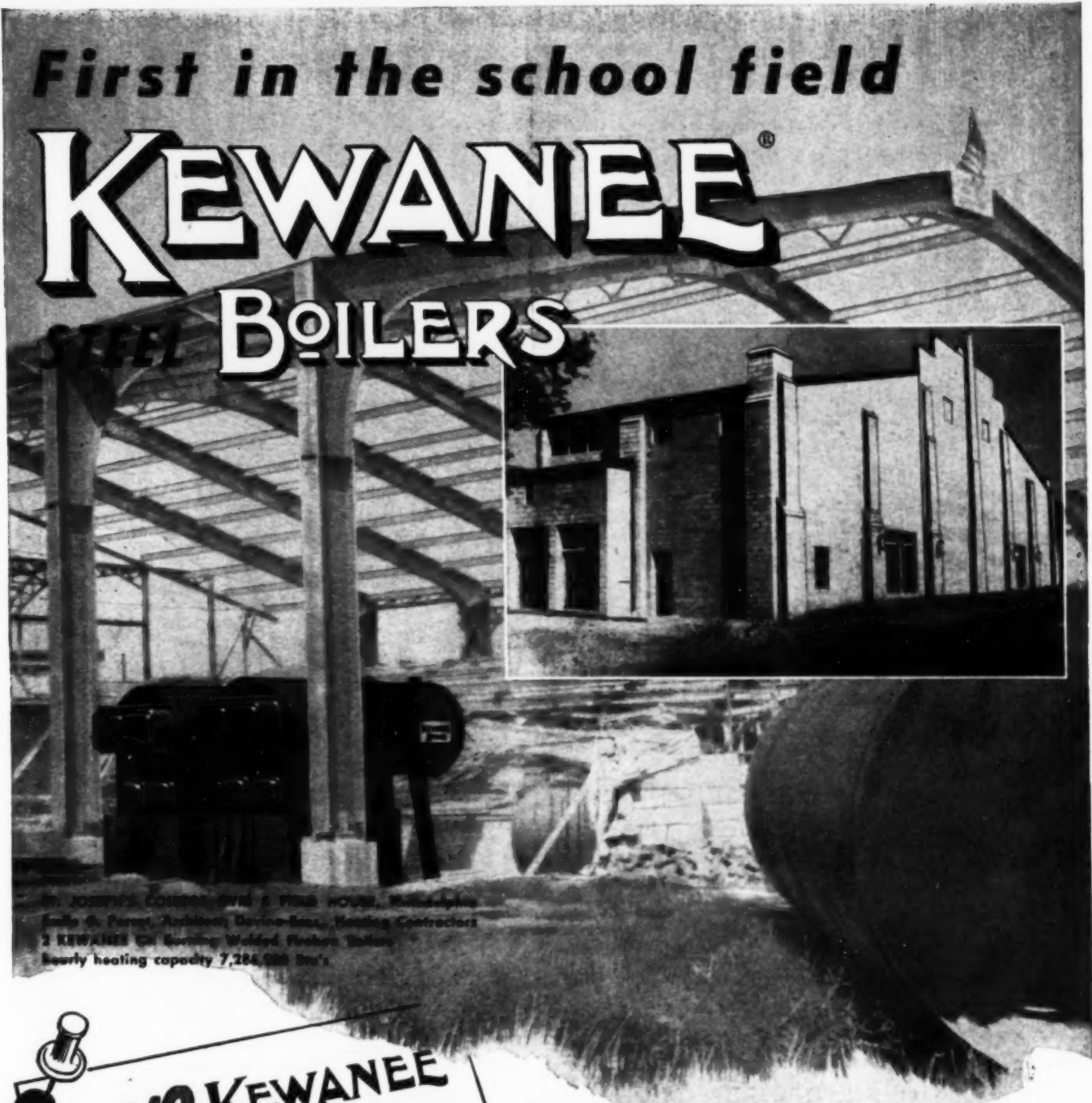


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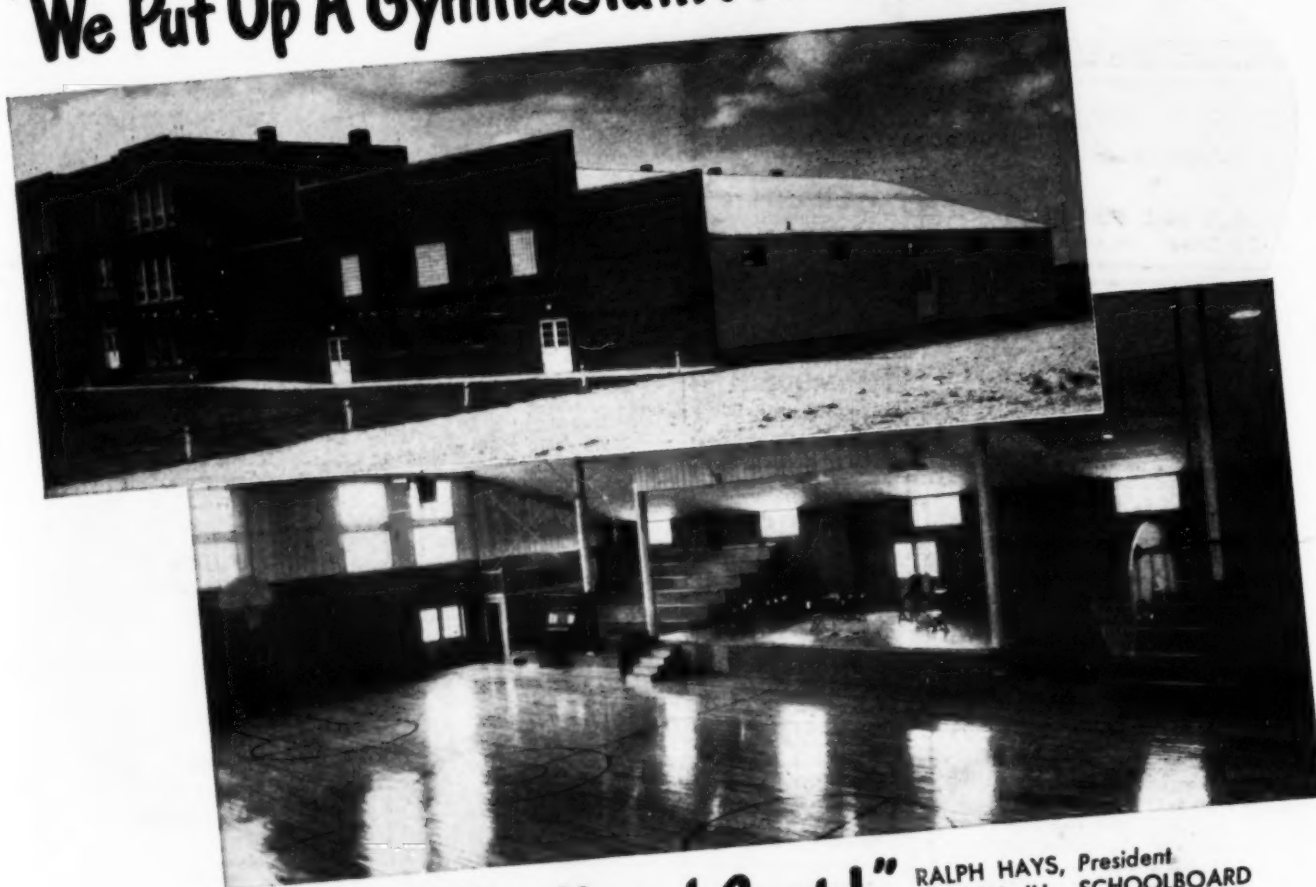


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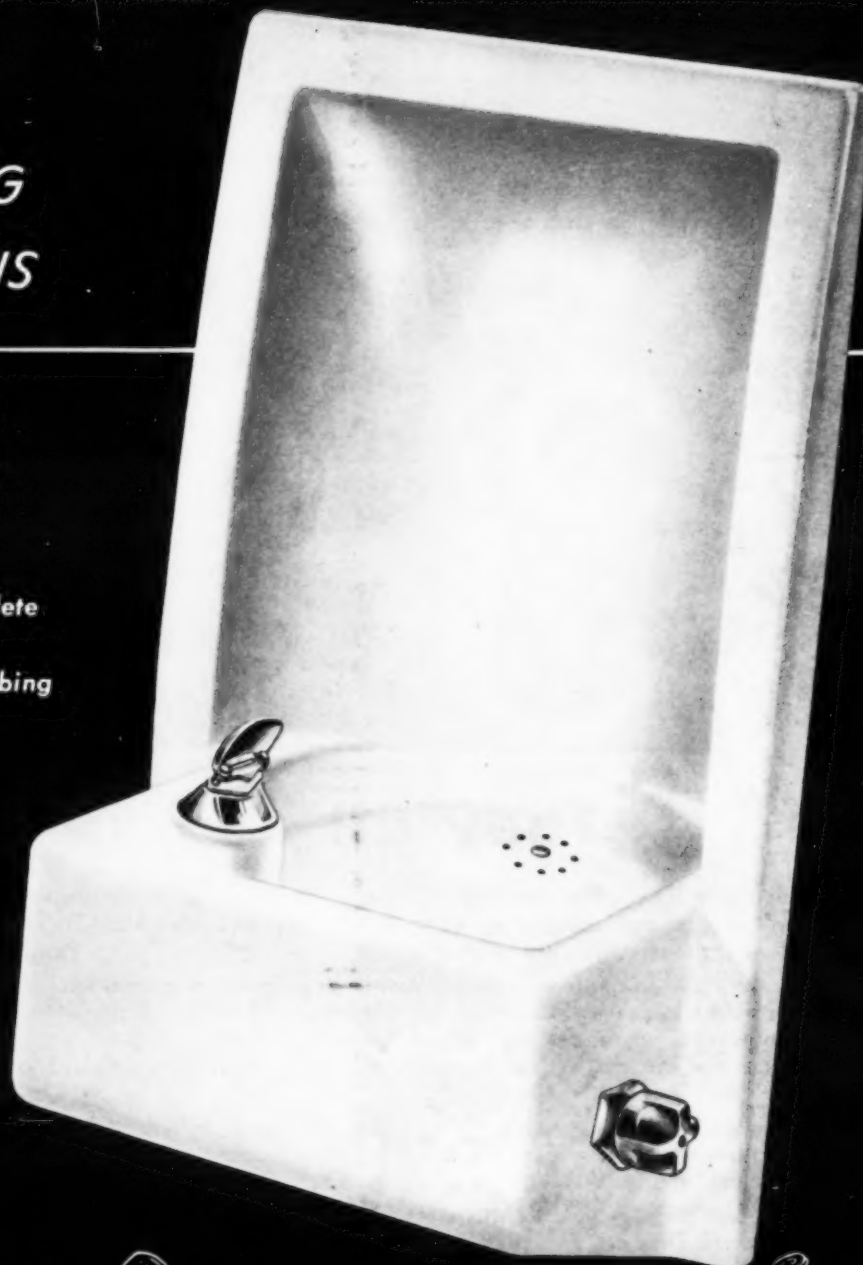
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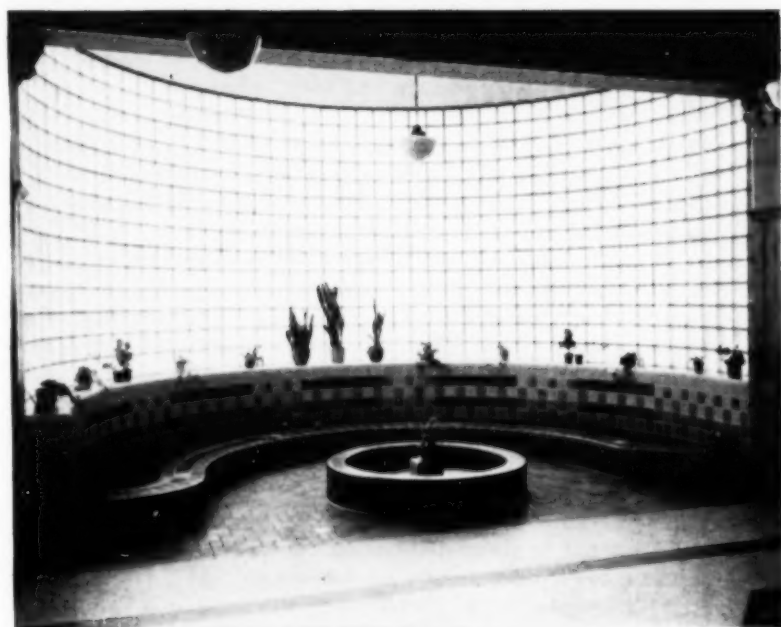
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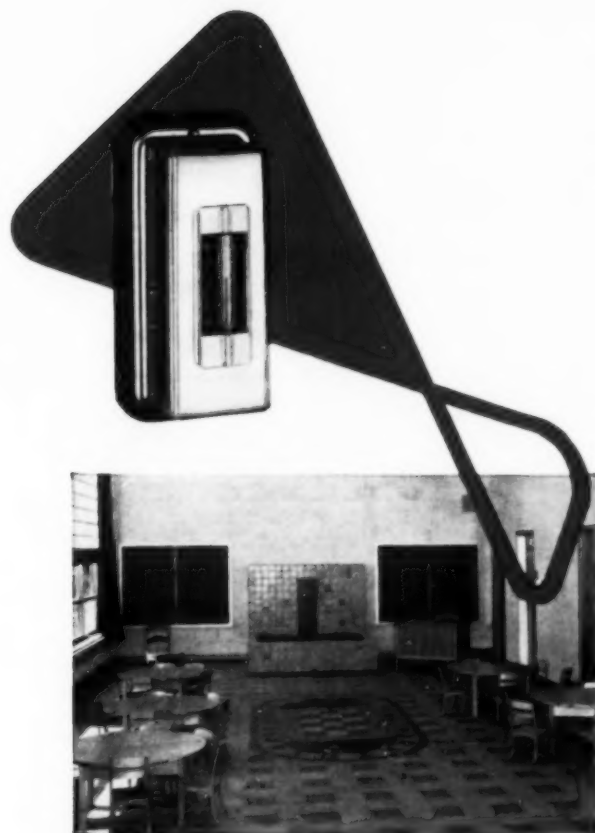
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A Periodical of School Administration

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School Building in 1950

Contracts let for new school buildings, additions and modernization projects, during 1949 reached an estimated total of \$840,000,000. New school building activity during 1950 will raise this high level of school plant construction by 7 per cent, to a valuation of \$900,000,000, according to the joint estimate of the U. S. Departments of Commerce and of Labor.

Estimates based on contracts now being let and the large volume of completed plans forecast a volume of new school building for 1950 of \$992,778,000. This volume of new construction in the nine geographical areas is estimated as follows:

UNITED STATES	\$992,778,000	100.0%
New England	49,638,900	5.0
Middle Atlantic	145,938,366	14.7
East North Central	191,606,154	19.3
West North Central	55,595,568	5.6
South Atlantic	142,960,032	14.4
East South Central	68,501,682	6.9
West South Central	125,090,028	12.6
Mountain	43,682,232	4.4
Pacific	169,765,038	17.1

Among the first five states with the largest volume of new school construction, California is at the top with an estimated volume of \$96,000,000 for 1950; followed by New York with \$92,000,000; Texas, \$80,000,000; Illinois, \$73,000,000; and Washington, \$54,000,000.

While school construction has been very active in several of the large city school systems, the school building program in most of the metropolitan school districts is at the beginning, forecasting a large volume of new school construction in these areas during the coming year.

Construction costs are expected to be relatively stable in 1950, at about the level in the latter half of 1949. Construction materials, school equipment and supplies, are now available and adequate to provide all 1950 schoolhousing requirements.

The school building program of 1950 may well be the pattern of new school construction activity for the decade ahead.

— JOHN J. KRILL



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Volume 120, No. 1

JANUARY, 1950

Subscription, \$3.00 the Year

Word From Washington —

America's School Building Crisis

Elaine Exton

Although the deterioration of the war period has stopped, the gains of recent years have not removed the undesirable educational inequalities among the states, according to a recent survey of nationwide school problems conducted by the National Education Association's Research Division.

Even the relatively large gains in local and state revenues have been less effective than hoped for the study concludes *because they have not*: (1) provided the teachers and facilities needed to meet the increasing enrollments; (2) been adequate to overcome the wartime lag in teacher education and school building construction; (3) completely offset the decreased purchasing power of the school dollar.

Some Existing Needs

The major findings of this report in regard to school building needs are as follows:

1. *The impairment of schooling* because of the use of temporary and obsolete buildings is affecting at least 1,000,000 pupils.
2. *Overcrowded classrooms* — arising from a shortage both of teachers and buildings — are causing unacceptable instructional conditions for at least another 4,000,000 elementary and secondary school students.
3. *In more than half of the states the building shortage is "very large"* for elementary schools in cities; in 21 states it is "considerable."
4. *In about one fourth of the states the elementary school building shortage is also "very large"* in rural schools. In 31 others it is "considerable."
5. As compared with 1948-49, the national situation this year is showing increasing difficulty for rural secondary schools.
6. *The building situation is especially ominous for secondary schools* when consideration is given to the ultimate effect upon them of the enlarged enrollments now passing through the elementary schools.

Growth in School-Age Population

These estimates from the U. S. Bureau of the Census on the number of children aged 5 to 17 in the United States during the period 1946 through 1958 reflect the spectacular rise in the nation's birth rate since 1940 and help in visualizing the impact of the boom in babies on school space requirements. On the basis of previous experience approximately 85 per cent of the boys and girls between these ages will attend public school.

Year	Estimated Number of Children Aged 5 to 17
1946	28,944,000
1947	29,389,000
1948	30,185,000
1949	30,816,000
1950	31,468,000
1951	32,136,000
1952	33,904,000
1953	35,249,000
1954	35,278,000
1955	37,080,000
1956	37,609,000
1957	37,929,000
1958	38,085,000

New Facilities Required

Information compiled by the Office of Education, Federal Security Agency, from all parts of the country indicates that 300,000 new classrooms will have to be

provided to house war-baby pupils and that an additional 200,000 will be needed for normal replacements during the next ten years. The same source reports that between 50,000 and 100,000 inadequate or substandard classrooms should receive immediate attention. These figures do not take into account increases in space requirements due to enriched curricular programs and the extension of school services to meet postschool and preschool needs.

On the basis of preliminary studies, Dr. Ray L. Hamon, Chief of the School Housing Section of the U. S. Office of Education, estimates that a capital outlay investment of approximately 10 billion dollars will be required from 1950 to 1960 to enlarge and improve physical plant facilities for public elementary and secondary schools.

The dollar volume of school construction now going on may, at first glance, seem impressive when compared with annual expenditures for this purpose in the middle thirties. However, Dr. Hamon reminds that an evaluation of what the construction dollar purchases today makes it apparent that nationwide the school building activities in progress are not only failing to keep pace with increases in school-age population but are not sufficiently extensive to permit replacing worn-out buildings that should have been taken out of service several years ago.

Action Recommended By AASA

To help solve school problems resulting from increased enrollments, the American Association of School Administrators and the Educational Policies Commission of the National Education Association are recommending this action program:

1. The educational needs arising from the increased birth rate should be brought forcefully to the attention of the American people by press, radio, and moving pictures; by responsible leaders in local, state, and national government; by citizens' or-



ganizations; and by the teaching profession.

2. State and local education authorities—school boards and school administrators—should make careful surveys of their respective jurisdictions in order to determine their present shortages in school buildings and personnel and to forecast future needs.

3. High school and college faculties and parents should advise and assist more able young people to enter the teaching profession—and particularly to prepare for teaching in elementary schools.

4. Both standards and salaries for teaching should be raised. It is especially urgent that standards and salaries for elementary school teaching be as high as for secondary school teaching. This is necessary to enlist more recruits and to retain more of the present personnel.

5. The public at large should join with the teaching profession in efforts to eliminate makeshift expedients—such as overcrowding school buildings, increasing the number of pupils assigned to each teacher, curtailing the school day by operating double shifts, and employing unqualified teachers.

6. More funds for public school building construction should be provided immediately by local, state, and federal governments.

7. The state and federal governments should provide increased funds to help meet the rising costs of education.

The Legislative Outlook

Although 43 bills introduced in the first session of the 81st Congress have as their purpose authorizing federal expenditures for building public elementary and secondary school facilities, the immediate prospects for general federal grants to the states for such projects are far from promising.

The Senate-adopted version of S. 2317 is the school construction measure that appears to have the best chance of passage at the new session of Congress. While this bill is structurally sound, the coverage—funds and scope—is so limited as to be insignificant in its effect on the over-all schoolhousing problem in the nation. "It's like trying to kill a dinosaur with a pea shooter," one school official comments.

This circumstance is particularly disheartening because thousands of school districts, even in the more wealthy states, are laying maximum rate and debt levies to meet outstanding obligations and have no more tax leeway with which to raise school construction dollars.

Competent educational authorities point out that if an increased amount of state and federal aid is not made available soon many additional school districts will have used up all their reserves for matching funds and as a consequence state and federal sources will ultimately be called upon to supply a larger proportion of the funds.

Original Provisions of S. 2317

From the start S. 2317 has been a compromise measure. In June, 1949, the Subcommittee on Construction of Educational Facilities¹ of the Senate Committee on Labor and Public Welfare held extensive hearings on school building bills pending before it. Subsequently it drew up S. 2317 which it reported "incorporates the best features of all of them and conforms to the basic principles supported by testimony at the hearings."

As originally introduced, S. 2317 and its companion measure H.R. 5718 (sponsored by Representative Hugh B. Mitchell of Seattle, Washington) authorizes through the Office of Education, Federal Security Agency, with technical assistance from the General Services Administration:

1. Grants to states for surveys and state planning;

2. Grants to states for school plant construction on a formula pattern based on: (a) uniform construction expenditures per school-age child in all states from combined federal and nonfederal sources; (b) federal participation ranging from 40 to 60 per cent in inverse relation to average per-capita income payments; (c) states determining project grants according to state program plans;

3. Grants to local school districts overburdened with enrollments resulting from war, defense, and federal activities.

S. 2317 as Amended

The full Senate Committee on Labor and Public Welfare amended S. 2317 by striking out the provisions noted in item (2) above but included authorization for grants for a nationwide state-by-state survey of physical facilities for elementary and secondary schools as in item (1) above and retained the provisions concerning construction of school facilities in districts affected by emergencies due to federal activities. See item (3) above.

The new Title I reads in part: "In order to assist the several states to inventory existing school facilities, to survey the need for the construction of additional facilities in relation to the distribution of school population, to develop state plans for school construction programs and to study the adequacy of state and local resources available to meet school facilities requirements, there is hereby authorized to be appropriated the sum of \$5,000,000; to remain available until expended . . . the making of grants hereunder shall not in any way commit the Congress to authorize or appropriate funds to undertake the construction of any public works so planned."

The following table² indicates the federal funds that would be allocated to the states for surveys under this Title if S. 2317 is enacted into law in its present

form and the \$5,000,000 authorized is actually appropriated. Dollar for dollar matching by the states would be required. In other words, states would be entitled to receive federal funds, up to the amounts below, provided they spend like amounts for this purpose from nonfederal sources.

United States	\$5,000,000	Nebraska	\$ 44,062
Alabama	128,786	Nevada	10,400
Arizona	26,405	New Hampshire	17,006
Arkansas	65,176	New Jersey	130,630
California	287,383	New Mexico	26,405
Colorado	42,247	New York	406,788
Connecticut	57,408	North Carolina	165,071
Delaware	10,000	North Dakota	24,410
Florida	80,576	Ohio	249,304
Georgia	137,644	Oklahoma	91,308
Idaho	21,294	Oregon	48,039
Illinois	255,186	Pennsylvania	344,791
Indiana	130,319	Rhode Island	21,975
Iowa	89,435	South Carolina	92,842
Kansas	64,052	South Dakota	24,460
Kentucky	119,927	Tennessee	127,433
Louisiana	104,596	Texas	273,735
Maine	32,196	Utah	27,476
Maryland	68,481	Vermont	13,297
Massachusetts	140,199	Virginia	115,338
Michigan	212,428	Washington	76,638
Minnesota	99,485	West Virginia	84,133
Mississippi	99,144	Wisconsin	113,284
Missouri	129,126	Wyoming	10,000
Montana	19,931	Dist. of Col.	19,761

The Senate, after accepting the modifications suggested by its Committee on Labor and Public Welfare, added a few of its own. The most important change was the inclusion of a section authorizing the Reconstruction Finance Corporation "to make advances not to exceed in the aggregate \$10,000,000 to carry out the provisions of this Act." These would be made to the federal agency administering the program and not directly to the states. Not more than \$1,000,000 of this sum could be used to initiate surveys and state plans authorized in Title I. Under the terms of the bill funds for construction can only be made available to school districts congested by federal activities. Less than 1 per cent of the public school districts of the nation fall into this category.

Present Status of S. 2317

S. 2317 passed the Senate on October 17, 1949. It was called on the floor of the House of Representatives under suspension of the rules the next day but unanimous consent was not obtained because Representative Donald Nicholson of Wareham, Massachusetts, objected.

On the last day of the session leaders of both parties stood ready to bring up the bill again but when there was still objection the measure was referred to the House Committee on Education and Labor, chairmanned by Congressman John Lesinski of Dearborn, Mich.

Next Steps

Educational leaders in Washington recognize the fact that S. 2317 as passed by the Senate does not even begin to meet the national school plant crisis. They are considering ways and means of dealing with this problem realistically. Among the alternatives being talked about are the fol-

(Concluded on page 100)

¹The members of the Senate Subcommittee on Construction of Educational Facilities are: Hubert H. Humphrey (D) Minn., chairman; James E. Murray (D) Mont.; Lister Hill (D) Ala.; George D. Aiken (R) Vt.; Wayne Morse (R) Ore.; Elbert D. Thomas (D) Utah, heads the Senate Committee on Labor and Public Welfare.

²These figures are based on the Bureau of the Census estimate of population 5-17 inclusive as of July 1, 1947.

Physical Facilities for Pupil Personnel Services *Bruce Shear**

"It cannot be said that provisions for guidance as a part of the secondary school program deserve greater emphasis than do the school's curriculum and its methods of teaching. But it can quite justly be said that fewer schools are today giving adequate attention to their programs of guidance than to the other essential activities. *In all too many schools guidance is not yet a recognized and integrated part of the school's administrative operations.*¹ It must be exactly that, if the secondary school program is to measure up to any valid test of its effectiveness."

These were the closing statements of an address delivered by Francis T. Spaulding, Commissioner of Education, New York State. Dr. Spaulding was addressing the Annual Conference of the New York State Counselors Association, at Syracuse University, July, 1946. In the address the Commissioner stated the premise that "the most valid test of the school program as a whole, and of each major part of it, is its effectiveness in helping young people to get ready for the world they are to live in." . . . The curriculum, methods of teaching, and educational and vocational guidance" were reviewed as "factors which are properly to be considered essential in any secondary school program so planned and so administered that it will actually be effective in preparing young people to stand on their own feet outside of school."

Various studies have pointed to the lack of provisions for a program of guidance in many schools in New York and in other states. These studies have, however, largely confined their emphasis to philosophy, tools and techniques, and personnel of the guidance program. When one turns from these factors to that of provision of adequate physical facilities for guidance, the statement "In all too many schools guidance is not yet a recognized and integrated part of the school's administrative operations"² is more than ever applicable.

During the school year 1948-49, Supervisors of the Bureau of Guidance of the New York State Education Department, Albany, were asked, as a result of their visits to schools, to write up a "Special Report on Space and Facilities for Guidance Service." Such statements as "no room available,"³ or "If full time counselor is added, principal doubts that guidance office can be provided," appear often in these reports. Other reports mention vaults, ends of corridors, store-rooms, and balconies as makeshift counseling

offices. Inadequate lighting, no ventilation, inaccessibility, no equipment, interruption, too small—these were characteristic words and phrases appearing in the descriptions of many provided spaces. Seldom was the supervisor able to say, "—guidance director, has a pleasant, spacious, and well-equipped office, located ideally next to the administrator's office. One side wall is lined with shelves and there are several steel files. A small waiting room also is provided," or, "Each counselor has a private office and a waiting room. The rooms are of an adequate size, located next to the principal's office, well lighted and ventilated. A storage space is provided for each counselor. Telephones for intra-school and outside calls are available. Doors from waiting rooms open into hall, and into each other as well as into private offices. Records in principal's office are also easily accessible."

Are such conditions confined to New York State? Perhaps such a question should be answered only by those who are well acquainted with conditions in particular states. However, the writer wished to obtain a general impression of provisions made for physical facilities for guidance. To do this a study was made of the plans of new or proposed secondary schools presented in the *SCHOOL BOARD JOURNAL*, for the years 1937-39 and 1946-48. There was no way of checking to determine if such buildings constituted a good sampling of all school buildings constructed in these years. It was assumed that these plans, presented in the *JOURNAL*, were examples of schools, planned and constructed to provide physical facilities for at least the essentials of modern day secondary education.

Take this last statement as an assumption together with the one inherent in Dr. Spaulding's remarks, i.e., that guidance service is an essential in the modern secondary school, then add, that if such a service is to be a real part of a school program, adequate physical facilities should be provided. With these factors in mind let us look over the school building plans as presented in the *JOURNAL*.

There was, as might be expected, a great difference in the plans presented for the three-year periods selected. In 1937-39 the plans of 47 schools, partially or totally of the secondary school level, were studied. In the three-year period 1946-48, only 13 such schools were included in the *JOURNAL*. In each instance the schools represented a wide range of locations, types, and sizes.

In studying the plans in search of physical space and facilities devoted to guidance service such space was accepted if (1) it was labeled Office and located apart from other

rooms labeled Administrative Offices, (2) Conference Rooms, other than those obviously connected with classrooms or the library, (3) rooms labeled Adviser, Dean, Registrar, and finally (4) those labeled Counselor, or Guidance.

In 1937-39 in the plans of 47 schools, rooms so labeled appeared as follows: Other Offices, 7; Conference Rooms, 4; Dean, or Dean of Girls, 4; Adviser, Grade Adviser, Boys Adviser, 4; Registrar, 2; Counselor or Guidance, 3.

Three cases among those listed represented duplicate or additional provisions in two schools so that in all 22 of the 47 schools presented had physical provision (by these liberal criteria) for guidance service. Actually, as noted above, on these plans there were 3 cases in which space was labeled Guidance or Counseling.

The greater number of school plans presented in 1946-48 were those of elementary schools. In this period only 13 schools, wholly or in part secondary schools, were presented. The plans for these schools indicated three Conference Rooms, and three rooms labeled Guidance. There was one duplicate among these, so in all of the 13 schools, five provided guidance space, three actually labeled such space for guidance.

The proportion of new and proposed schools, presented in the *JOURNAL*, in which physical provision for guidance was made, 1946-48, was the more surprising when the titles of articles and descriptions were noted. Many of those titles reflected the idea of "Planning Today's Schools for Tomorrow's Children." Is guidance a function of such schools? Are school board members aware of the place of such a service in a modern school? Are administrators and other professional personnel cognizant of the need for a guidance program, and are they bringing this need to the attention of the layman? If provision for space and physical facilities in the new and modern secondary school building is a measure, such questions must be answered in the negative.

There is now a tremendous need, over the country, for additional and remodeled school facilities. Adequate standards have been established for a number of types of school units and these are available to school board members, administrators, and architects responsible for planning new or altered buildings. However, almost nothing is available concerning standards for space and physical facilities needed to house an adequate program of guidance and pupil personnel services.

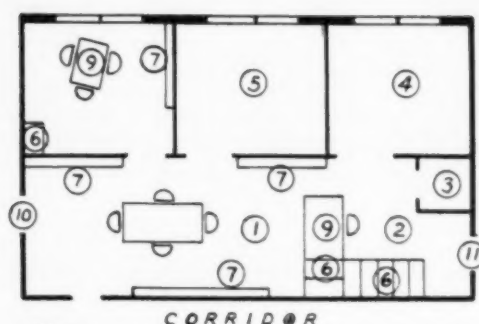
This last phrase, pupil personnel services, describes a framework of services including:

*Associate Education Supervisor, Bureau of Guidance, The State Education Department, Albany, N. Y.

¹Italics are this writer's.

²Spaulding, Syracuse Address, 1946.

³The quotations in this paragraph were taken from reports in the files of the Bureau of Guidance, The State Education Department, Albany, N. Y.



Plan I.

attendance and child accounting service, educational and vocational counseling, psychological services, and health services. The attendance supervisor, visiting teacher, counselor, psychologist, nurse-teacher, dental hygienist, school physician, and psychiatrist are among the professional personnel often associated with such services to the pupils.

In current thought and practice these services are becoming more closely associated with each other in their operation within the school. This fact, in turn, influences thinking concerning the space and physical facilities necessary for such a co-ordinated program. Where provisions for such services have been made in modern school buildings it has been more and more usual to group this space in a closely related unit, centrally located, convenient to the administrative offices.

When planning such a suite for pupil personnel services, function as well as relationship must be considered. Within a unit of this kind the activities to be carried on might include: counseling and interviewing; case study and case conference; gathering information on occupations and education; preparing such information for use; group testing; maintaining pupil records; individual psychological and physical examinations; group instruction in guidance topics; group and individual therapy; classification and placement of pupils; follow-up, evaluation and other research; in-service training of teaching staff.

Points to be considered in planning space and physical facilities for pupil personnel services are:

1. *Central Location.* The suite should be located so as to be easily accessible to pupils, teaching staff, administrators, new pupils, and other persons coming into the building (out-of-school youth, parents, employers). Its location should also foster use at times when the school may be otherwise closed. As stated by Dr. Don L. Essex,⁴ "Facilities used by the community should be so located and grouped that they are readily accessible from the main entrance."

2. *Relative Location.* The unit should be adjacent to the administrative offices. When not included in the suite, a classroom for group testing and instruction should be available near the personnel unit. Nearness to the school library is a possible advantage.

⁴Essex, Don L., "Basic Principles of School Building Design," *AMERICAN SCHOOL BOARD JOURNAL*, Vol. 116, No. 1, January, 1946, pp. 19-20.

3. *Space Provided.* The amount and type of space available will depend on such factors as the size of school, and whether it is a new or remodeled school building. Inclusions, in a rough order of desirability, should be: a health suite, one or more private offices for counseling and interviewing, a waiting room, an available classroom for group testing and group instruction in guidance topics, an office for individual psychological examination and for psychological counseling and therapy, storage and vault space.

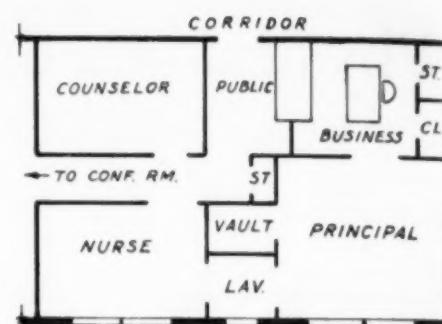
Each counselor on duty should have a private counseling office available. The equivalent of one full-time counselor for each 400 pupils is recommended. The waiting room might well be large enough to house the central records file and clerical offices. Some schools may wish to provide space for test scoring and a one-way vision room in connection with the psychologist's room.

4. *Equipment.* Each counselor's office should contain a desk and desk chair, two other chairs, at least one 4-drawer vertical letter file, bookcase, and a telephone. The waiting room should be furnished with comfortable chairs, table, display and bulletin boards—the records alcove of this room should have desk(s) and chairs, vertical files with four or five lock drawers, telephone and typewriter(s). The room for psychological examination and therapy should have a table, chairs, and storage cupboard. If a classroom is provided for group testing and guidance instruction, it should be equipped with movable student desks and chairs, blackboards and plenty of bulletin board space, a large table, a bookcase, and four-drawer vertical files. Rugs, draperies, and suitable pictures would be desirable extras for the suite.

The health suite should be an integral part of the total pupil personnel suite. However, no effort has been made here to describe the necessary space or equipment. This is one of the school units already well planned and described in other places.

From the issues of the *JOURNAL* which were studied, typical plans have been selected to illustrate certain points cited above. The following references are not the only ones which might have been selected, but they do illustrate varying types of space arrangements for the services under discussion:

1. Davison, Lyman W., "Lawrence High School," July, 1937, pp. 49-53, 99.
2. Shangle, C. Paine, and Naramou, F. A., "The



Plan II.

Billingham High School," October, 1938, pp. 33-36.

3. Gale, Fulton, "Moscow Builds a Community School," November, 1939, pp. 33-36.

4. Swanson, J. Chester, and Hosler, Fred W., "Building Planning in Allentown," October, 1946, pp. 47-51.

5. Church, Harold H., "Planning a School Building," January, 1947, pp. 44-46.

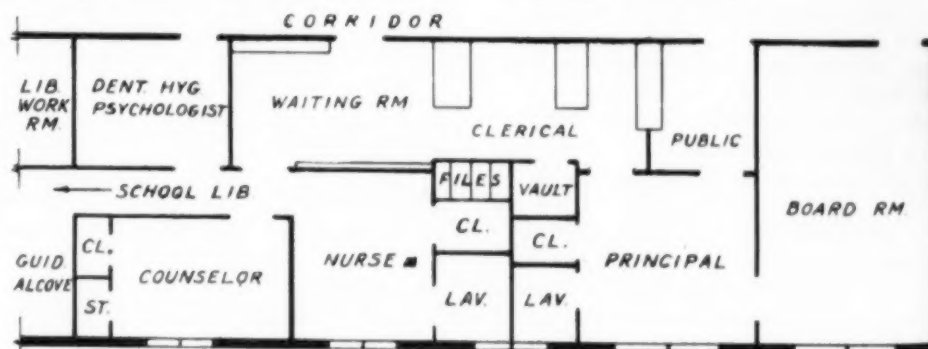
The plans and discussions which are hereafter presented are for illustrative purposes. The space and facilities which can be provided in a given situation depend on factors of size and shape of available space. However, if adequate provisions are to be made for essential pupil personnel services, definite planning must insure the proper facilities. If guidance stands with instruction and the curriculum as one of the factors "essential in any secondary school program,"⁵ the space and facilities allotted to the program must reflect its function and relationship with the other aspects of the school's total program. In too many cases, even today, the type and location of space for guidance and other personnel services is governed by a "what's left over" philosophy of planning. It is with this fact in mind that following illustrations are included.

Plan I illustrates a possibility for converting a classroom into a pupil personnel suite. The numbered parts are listed as follows:

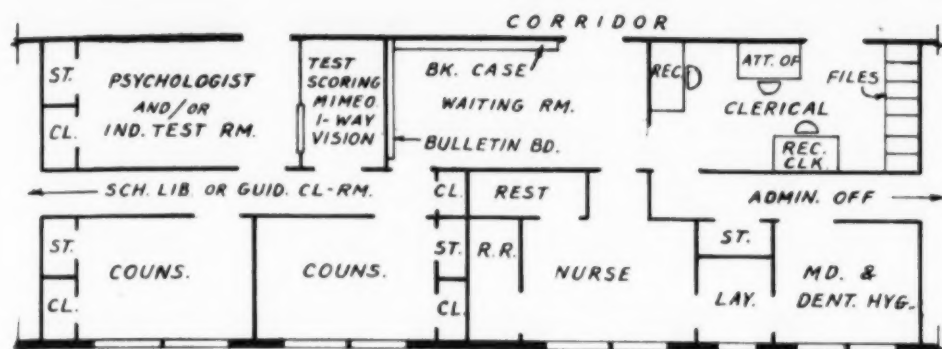
- | | |
|--|---|
| 1. Waiting room | 7. Bookcases |
| 2. Clerical space | 8. Bulletin board |
| 3. Storage closet | 9. Desks |
| 4. Room for individual testing, psychologist | 10. Possible door to health suite |
| 5. Counseling offices | 11. Possible door to administrative offices |
| 6. Files | |

The files should include (a) counselor's file, (b) occupational and educational information, (c) central records. The bookcases should be wainscot height.

⁵Spaulding, Syracuse Address, 1946.



Plan III.



Plan IV.

If the partitions around the room (4) are of regular wall construction, a more sound-proof therapy room is available to a psychologist. Other partitions should be of wood panel, frosted-glass and glass construction, ceiling height. Desk telephones for counselor(s) and clerk are especially recommended for these offices and in like offices in other suites represented.

Plan II represents a possible layout for a small school in which pupil personnel staff members may be on a part- or full-time basis. In this suite the school secretary is also receptionist for the nurse and counselor and acts as the records' clerk. The conference room (board room) is placed to be available

to pupil-personnel services for such uses as clinic waiting room, small group testing room, and case conference room.

Although Plan III presents a more extensive suite the space taken up by the pupil personnel section is hardly more than classroom size. Here the administrative offices and personnel services offices have separate waiting space, but both can be served by the same clerical staff. Such a suite might be typical in a school of 300 to 500 pupils, employing a full-time nurse and counselor and other pupil personnel staff on a part-time basis. The adjacent library with its guidance alcove is a desirable feature of this plan.

Plan IV presents a pupil-personnel suite for

a school of about 500 to 1000 students. The total suite covers less space than two classrooms but provides office facilities for a full-time nurse; two full-time counselors; a part- or full-time psychologist; and a part-time dental hygienist and a school physician. There is also an adequate waiting room and clerical office. The latter office provides space for a receptionist-secretary, a records' clerk, and an attendance supervisor. A small room is included which might house a test-scoring machine, duplicating equipment, and also serve as the observation room of a one-way vision system (for use by a competent psychologist for in-service training of teachers). Adjacent to the suite are indicated possible library or guidance classroom facilities and the administrative suite.

It has been stated before that these plans are but illustrative and many changes and adaptations will need to be made to comply with, and fit specific situations. However, the essential features of a pupil personnel services suite which have been discussed and illustrated above should be included in the plans of any secondary school which aims to fulfill its purpose "in preparing young people to stand on their own feet outside of school."⁶

⁶Spaulding, Syracuse Address, 1946.

A Case Study —

Can I Reduce Our Building Costs by 25 Per Cent? *H. W. Schmidt**

The doorbell rang and John Harrison was at the door with a large roll of what I later found to be a set of school building plans and specifications. I might say in passing that John is superintendent of schools in a fairly large industrial city and I had known him both professionally and socially for some years.

H. W. S.: Hello, John. Come in and make yourself at home. Unload your burden which looks to me uncommonly like a good many others I have seen during the past 25 years. I'll bet they are plans of your proposed new elementary school.

J. H.: How are you, H.W.? You guessed what I have here all right but you don't know what my burden really is [he looked rather down in the mouth].

H. W. S.: Come up to the table and make yourself comfortable. Maybe I can help you — at least I can try.

J. H.: My board is up against it and I'm in the same boat. The city fathers are in a tizzy, and our architect is out of sorts — all on account of these plans. We can't finance the construction. We are about \$100,000 short of the cost due to our debt limitation, a legal nightmare. Our lowest bids came to \$451,000, while all we can raise is \$365,000. That will leave us with a prospective debt of \$86,000 to say nothing of architect's fees, which alone will add \$27,000, and new equipment besides. Our total financial headache adds up to nearly \$123,000. The equipment cost is small as we have much that is needed on hand. Very wisely we purchased a lot of new furniture in the past few years.

There you are, H. W., and so I came to you, and the board also joins me in asking whether you can advise or do something to help us in this dilemma, either by cutting down the size of the building or if there is something in the plans and specifications which can be changed to meet our finances. The architect says, "No, unless you want a

poorly constructed and educationally inefficient building." We don't know enough about it — so here I am.

Some Preliminary Questions

H. W. S.: Before I look at your plans I want to ask you several questions, rather leading ones, John.

One: did your architect know your financial limitations?

Two: did you go into a huddle with him and your board and let him know what you want in the way of a building, arrangements, etc.?

Three: are you satisfied with the present plans; that is, do they represent what you have in mind for your school, such as seating capacity, general arrangement, number of classrooms, work spaces, auxiliaries, etc.? That will be enough for the present. How about it?

J. H.: The answer to your first question is, Yes. The architect was advised how much money we could spend. I'll have to hedge a little on Question Two. We felt the designer knew a lot about our local educational setup,

*School Building Consultant; formerly Supervisor of School Building Service, Wisconsin State Department of Public Instruction, Madison, Wis.

but there have been no conferences — just some talk and desultory conversations. Now that I think it over I can see that this idea was not so hot, though I don't know just how the situation would have improved so far as cost is concerned unless we cut out — but we couldn't cut anything, at least I *thought* so.

As to the third question, I am not too sure I like all of the arrangement, but the number of classrooms appears to be correct and the capacity seems ample for our needs for quite a period of years; the building *can* be extended. But look at the price, just out of the question.

H. W. S.: Well, John, before I'll comment on your answers I'm going over the plans and see if we can find out why you are asked to spend nearly \$100,000 more than you can raise. One thing is sure, you made a mistake in not going over the whole situation with your architect, and to tell the truth, I do not know how the matter got out of hand. So let us see what you have. Oh, by the way, did you see the preliminary sketches? Yes? Well, I can see they evidently did not mean much to you, especially as the cost was not discussed, I take it.

The plans show a one-story building. It has 11 classrooms, an activity room, a kindergarten, a large recreation room, an office suite, and the necessary auxiliary spaces. There is a central corridor, and no subgrade construction except for the heater room. The building faces north along its major axis! After reading the specifications and making a partial study of the plans I begin to see some light and reasons why the cost is so high. [John was very much interested in my running comments, and he also began to see things in a different light.] Aside from a good many smaller items there are some which merit discussion — matters of fact having a bearing upon the whole problem, John. So here goes:

The Size of Classrooms

H. W. S.: There is one outstanding fact that you should have noticed, John, and that is that your classrooms are 23 ft. wide and 41 ft. long, with an 8-ft. "work alcove" at the end. Two things immediately confront you. Are you committed to a program of teaching, an educational philosophy which will make good use of these spaces? So far as I know your school system — a good one by the way — is fairly progressive, but I have never seen any signs pointing in the above direction. Again, I take it your teachers will handle around 32 pupils per room which seems enough of a load; that works out as 30 sq. ft. of floor area per pupil in the room proper and about 36 sq. ft. for each classroom on an over-all basis. *Some space.* On the other hand the kindergarten is large enough for the activity carried on therein though the storage and workrooms are none too large. How about this, John?

J. H.: Darn it, I guess I was asleep on that item. To tell the truth the whole matter was presented in such glowing terms, such as, "the modern philosophy of education" requires this and that and "we now call for 30 sq. ft.

of classroom floor space per pupil" and "the teachers like it," etc. Now I'll admit, we can do with less space and still do good teaching. Our old classrooms, around 23 by 32 ft., seemed ample with about 22 sq. ft. per pupil and nobody complained about not enough space. If we go slow on that item I can see a big cut in costs if we just call for a good size classroom. How about it, H. W., can you see light in this direction?

Added Cubage Raises Costs

H. W. S.: Right on the nose, John, and I am suggesting you make your rooms about 35 ft. long and eliminate the activity space as such and under the conditions you may be able to accommodate your present activity work in the classroom itself, especially if you keep your room enrollment around 32. That will give you about 27 sq. ft. per pupil. Do you realize that you are reducing the cubage of your building by nearly 45,000 cubic feet, a saving of around \$41,000 on the present price basis? Unless of course you want to accept the activity program in its entirety, in which case —

J. H.: No, no, there will be no "unless" so far as I am concerned. I did not realize how that feature ran into money; it looked so enticing on paper, and I know my board will go with me on that. I see where the larger classroom will permit us to go at least part-way on any of the new educational programs. What else have you up your sleeve?

H. W. S.: The building has 12-ft. ceilings all over except in the recreation and heater rooms; both these areas have 14-ft. ceilings which should be retained. But we are recognizing that with proper air conditions a 12-ft. ceiling for a classroom is not essential; so let us reduce this height to 10 ft. What? I see you have your pencil out; how much is that saving, on the present bid basis? About \$30,000? Let me check, if you don't mind; correct. Well, so far we have saved around \$71,000. Not bad. Maybe we can cut some more, without of course reducing the efficiency of the building. Can you see something, John? You have a contemplative look.

Economical Heating

J. H.: You know there is one feature about the plans which has been guessing, because, I suppose, I am not technically trained, and that is the manner in which the building is to be heated. The architect tells me it is the very latest — radiant heating he calls it. You know heating coils will be embedded in the concrete floors, with a little unit heater in the room, or is it a unit ventilator?

H. W. S.: That is one way of heating a building; but it is probably the most expensive to install. The automatic room control is also a problem, and we are not yet sure of its effectiveness. Though copper tubing is used and is not likely to go bad, yet if it does, I'd hate to be the one who has the job of ripping up a concrete slab for repairs. The relative cost of operation and other features inherent in the system are not too well known as yet, and a good many architects are still

not convinced that as an over-all proposition it is superior to a good unit ventilating installation which heats and ventilates at the same time. The latter is of considerable importance with a 10-ft. ceiling. What did you say? Oh, yes, you were brought up on the latter system and are familiar with it. So why not install it? You will be assured of success — at a considerable reduction in cost. How much is difficult to state just now, but it will probably run into five figures; not to be sneezed at.

J. H.: The artificial lighting is good, as you say, H. W., and it looked O.K. to me too. What are you figuring now, illuminating efficiency or effectiveness, I suppose? What do you get? Around 30 foot-candles? That is pretty good, isn't it? Then I suppose the cost will also be less due to our cutting down the building. You can't tell exactly? But I bet it will be in the four figure group anyhow. Three thousand bucks? That's something too.

H. W. S.: So long as we are talking about lighting, I suppose you have been told — never mind by whom — that directional block fenestration is the proper thing to install. Isn't it a good thing? Oh, yes, if the conditions warrant and if you can afford it. It is especially effective in the case of very wide spaces and with unilateral lighting in such cases. But there are fenestrations which give very good lighting and distribution at a much lessened cost. The modern types of clear glass windows, with virtually no mullions and large window expanse, are very effective and cost considerably less than the type specified. Here again you are also saving on the reduced glass area required under your proposed changes. I don't know how much off-hand, but it will be a material sum.

Good Finishes at Low Cost

J. H.: Say, we are cutting costs, I mean you are; but I'll bet there are a lot of other items we can save on and I'd like to have you spend a little time to check the specifications. You already have some things in mind? I am getting so hard bitten now that I can take anything, H. W., and the interesting thing to me is that the changes already mentioned apparently do not cut down the efficiency of the school, eh? I thought not. What else has the brain wave in mind, any more?

H. W. S.: There *are* some items which may well be checked and looked into to see if less expensive materials and constructions may be used without getting a poor building.

For example, completely ceramic-tiled toilet rooms; why not floors and a 4-ft. dado, with walls and ceiling of a hard plaster finish? Ceramic tiled corridor wall dados can be finished in other less expensive materials which are readily available. Room trim as such may be omitted, while metal blackboard trim likewise may be changed. I would suggest asphalt tile floors for the classrooms in place of the expensive rubber tile called for.

There may be other items which might show up in going over the specifications with a fine comb, but as it is, you can see how we can change a good many things and yet not make

the school either a poorly constructed or inefficient one. What is your reaction, John? Will your board also go with us on the above items and contemplated changes?

J. H.: I am positive they will, especially when we can cut the cost nearly 25 per cent, and I know I can convince them that the building will be essentially a good and substantial one, thanks to you, brother. Just one thing more bothers me and I suppose all of us on this side of the question. How is the architect going to take it? What is your opinion?

Judicious Planning

H. W. S.: John Harrison, you've put your mental finger on what may become a rather sore spot. At the same time I feel free to have given you my ideas about this and without bias.

In the first place, the architect has to make a living, and a six per cent fee, the usual one basic to members of the A.I.A., is of course dependent upon the cost of construction. It makes considerable difference whether he collects on a \$500,000 or a \$400,000 bid — and in the very nature of the situation he

will make extended plans and call for high priced materials; a very natural inference, is it not? This is especially true if no specific mention of material and price limitation has been made in the beginning. But you say that the latter phase has been mentioned. In this case you will have to write your own ticket and form your own conclusions. Of course the architect may have considered that he would get better bids. But if so, someone made a big error.

All of the changes discussed are of course not due to expensive materials but also to extended plans, but there is enough to show that a good building may be erected without penny pinching or using inferior materials, using this term to connote "poor." So let us say the planning has been "injudicious"; expensive materials have been called for and planning somewhat out of line with the actual situation. The reason for that, you ask? I don't know; you had better consult the architect and see if you can get the matter adjusted somewhat along the lines indicated. It can be done.

Just one other matter, your building faces north and thus has both this and south ex-

posure, neither considered the best. It is unfortunate that other exposures were not considered. Of course your present site does not lend itself well to a change; but have you considered the purchase of additional space to the south? It is available? Then why not purchase it, in which case you can turn your plans one-quarter way around and get east and west lighting; no other changes are necessary. Can do? Good, I'd certainly suggest it.

And lastly, John, I'm glad your architect did not import the California ranch type of planning, with "outside" classrooms, sun porches, pergolas, etc. — you know the type. All right for very mild climates, unless of course they have "unusual" weather, as the saying goes, but certainly not well suited for our rigorous climate of the Middle West. So, good luck, John.

(NOTE: The matter has been adjusted on the above bases and everybody seems happy about it — even the architect recognized the validity of the suggestions made. Oh, yes; I got a five pound box of candy. And so endeth this rather interesting problem.)

For a Growing Neighborhood —

Reconverting a Neighborhood School Unit

*Russell E. Wilson**

The Long School was typical of five Dearborn schools experimentally planned as neighborhood units. Now the Long School and three others of the original group are being replanned and reconverted into complete elementary (grades K-6) buildings.

The original Long School, opened in February 1946, contained five elementary classrooms, a small kitchen, central restrooms, and its own automatic oil-heat boiler room. A

folding partition between two classrooms opened to form a large assembly and community room.

In 1947, increasing population densities and a shift in the organization of the elementary school program led to a four-classroom addition to the Long School and a further addition to one of the other experimental neighborhood units.

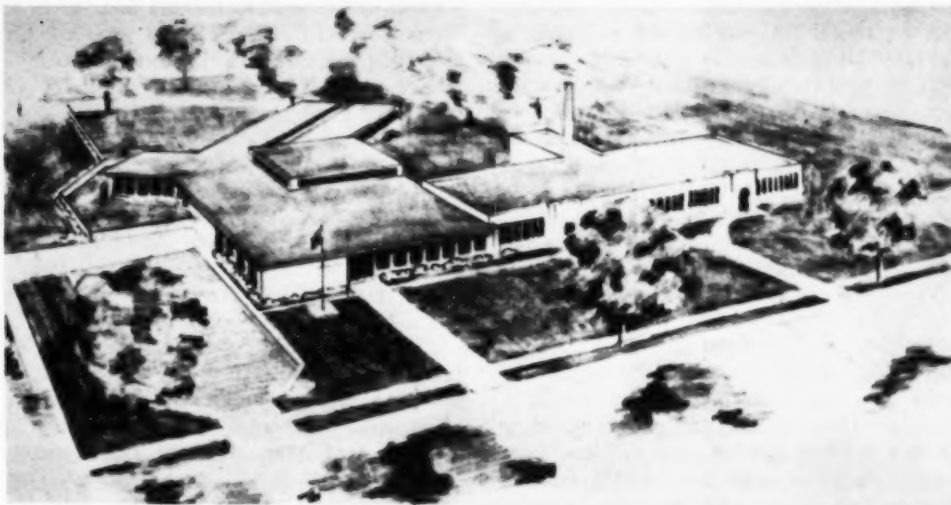
Under the reorganized elementary school program, self-contained classrooms combined with some specially designed multi-purpose

rooms will be emphasized. These changes will be more suited to the reorganized program under the direction of "general" home-room teachers in contrast to a departmentalized program involving "specialized" teachers. Specialized services will now be provided on a helping teacher basis.

The replanning of the Long School to fit the changed educational program will allocate the original classrooms to the upper elementary grades and the new self-contained classrooms to the lower elementary groups.



Architect's Perspective, Long School, Dearborn, Michigan. — Jahr & Lyman Associates, Architects and Engineers, Dearborn, Michigan.



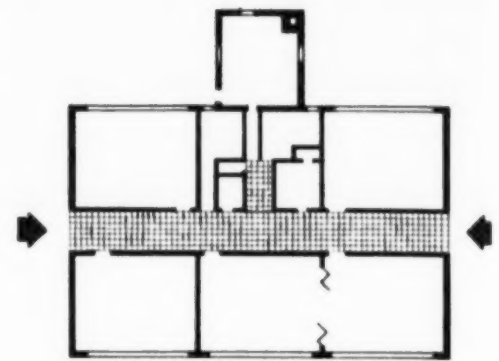
Air View of the Long School, Dearborn, Michigan.

The specialized facilities will be available to all grades.

The present reconversion of the Long School will raise the total number of classrooms to 18 rooms. In addition, the plans include a kindergarten-junior primary suite, an activity room, with cafeteria kitchen attached, a playroom, a health unit, a library book storage room, and an administrative suite.

The self-contained classrooms, 26 by 32 ft., in the reconverting addition, will feature:

drinking fountains, work sinks and counters, reading corners, seat benches, reversible tackboard-and-chalk-board sections, green glass chalkboard, individual room toilets, wardrobes, movable bookshelves, fluorescent lights, and bilateral natural light.

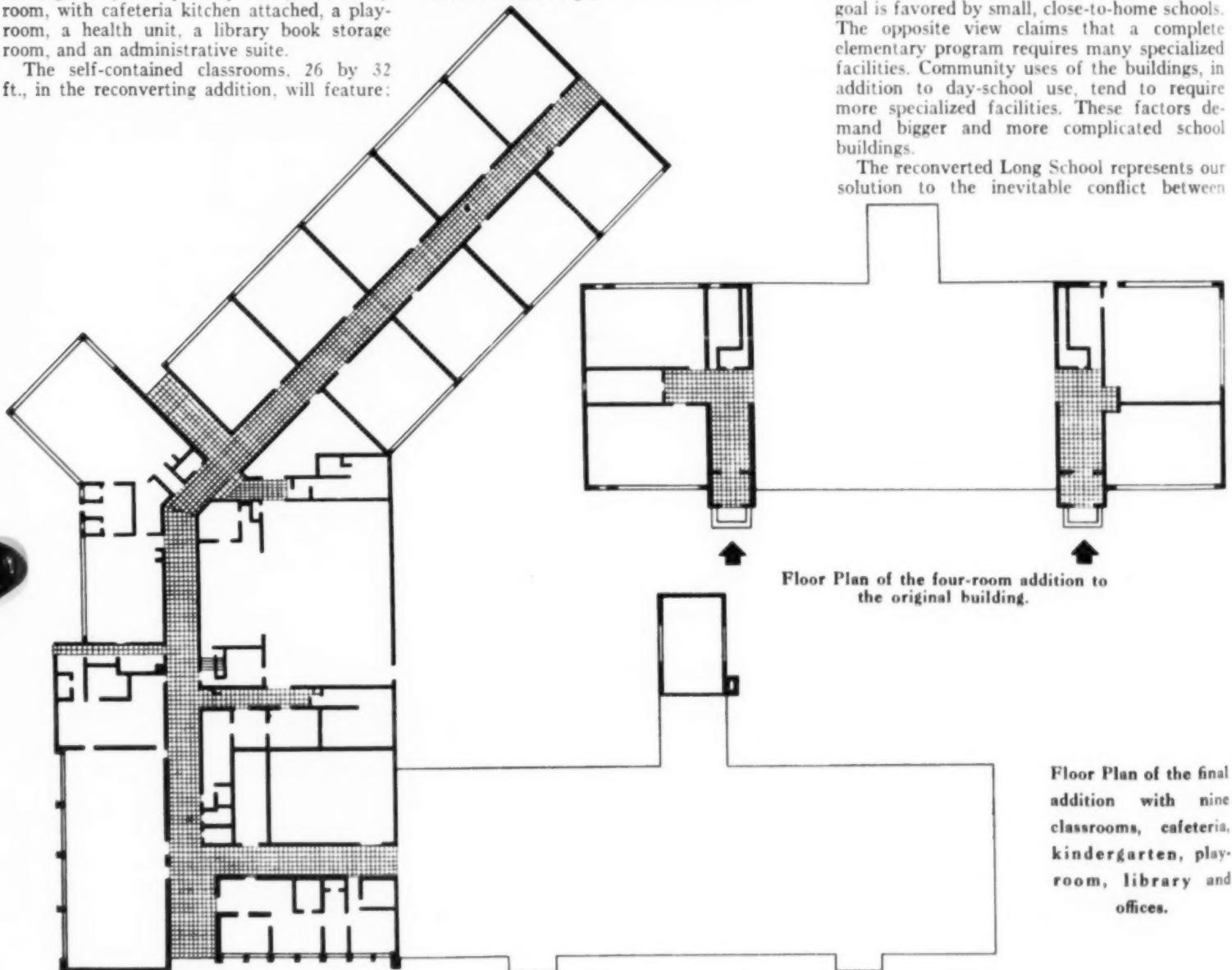


Floor Plan of the original five-classroom building.

The kindergarten-junior primary suite will have the facilities of the self-contained classrooms and, in addition to more floor area, will have mutually accessible storage, cloak and toilet rooms. There will be room exits leading to an enclosed and partially covered outdoor play area.

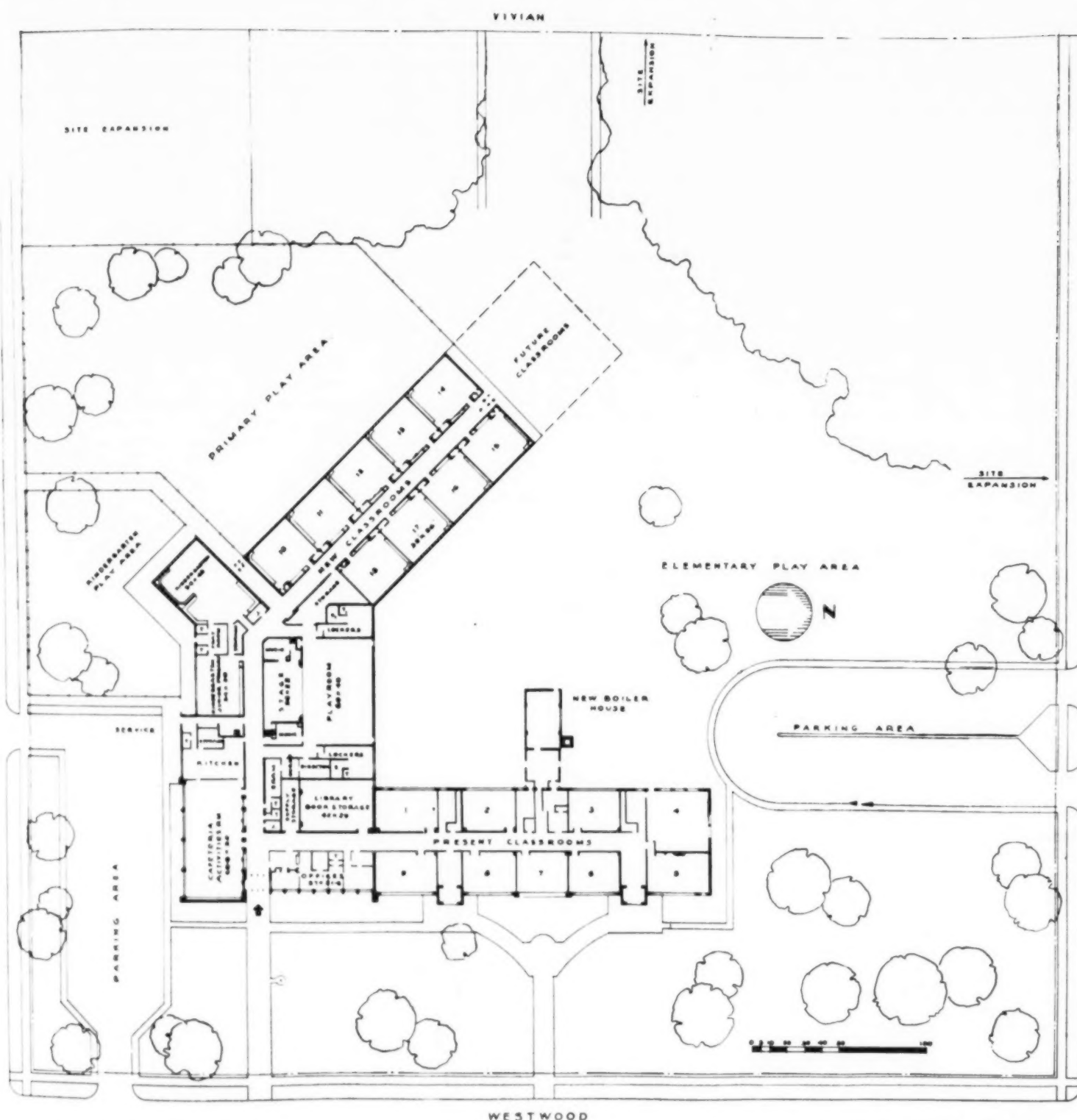
Elementary school buildings inevitably represent a conflict and a compromise. One position holds that the school environment should be intimate and friendly and should give small children feelings of security. This goal is favored by small, close-to-home schools. The opposite view claims that a complete elementary program requires many specialized facilities. Community uses of the buildings, in addition to day-school use, tend to require more specialized facilities. These factors demand bigger and more complicated school buildings.

The reconverted Long School represents our solution to the inevitable conflict between



Floor Plan of the four-room addition to the original building.

Floor Plan of the final addition with nine classrooms, cafeteria, kindergarten, playroom, library and offices.



Floor Plan of the completed Long School, Dearborn, Michigan. — Jahr & Lyman Associates, Architects and Engineers, Dearborn, Michigan.

simplicity and complexity. It represents experience with both larger and smaller buildings. It is geared to the kind of elementary program we are now operating.

The completed Long School will combine features extolled as advantages of both large and small schools. The use of self-contained home rooms and a partially segregated kindergarten-junior-primary suite should furnish the physical conditions which promote the intimacy and informality found in small schools. The segregated play areas should furnish the desired protection for younger children.

The auxiliary services units, such as the activity room and the portable equipment, will furnish the specialized facilities claimed as the advantages of larger schools. The membership of 400 to 600 and the elementary program justify the larger expenditures required to furnish these specialized areas.

The auxiliary services units have been centralized for easy accessibility and at the same time act as a buffer between the two classroom wings.

The rethinking of the neighborhood units has led to the development of over-all plan-

ning policies. Under these policies the neighborhood units, or home-school units, will be used to serve residential areas which are either too small to require complete elementary schools or where walking distances would be excessive for early elementary age children.

The basic elementary schools will be designed to fit attendance areas of one square mile. They will have an optimum membership of 400 to 600 pupils and will house the kindergarten and the first six grades. The buildings will include 15 to 20 self-contained grade

rooms, allowing 28 to 30 sq. ft. per child, a kindergarten-junior-primary suite, an activity room, a playroom, cafeteria service, health clinic, and an administrative suite. Specialized facilities will be provided for library service, audio-visual activities, dramatics, music, and arts. Portable, specially built bookshelves, science tables, handwork tables, and art-supply trucks will bring many features of the usual special purpose rooms into the basic self-contained home rooms.

The general building features will emphasize single story construction, bilateral lighting supplemented with fluorescent artificial light, hot-water wall radiators plus a tempered air dual ventilation system, a combination of radiant and convected heat in the kindergarten and junior-primary suite.

The sites of 10 to 12 acres will provide, in addition to building space, landscape setback area, game areas, equipment areas, grass plots, and enclosed play areas for the kindergarten group and for the early elementary group.

The over-all planning policies also suggest the general pattern for the location and size of school buildings and sites. These policies, outlined below, are designed for use in planning the future building program in Dearborn.

Recommended General Policies Related to the Location and Size of School Sites and School Buildings

The following policies should govern, in so far as possible, the general planning for the location and size of school sites and school buildings.

Additional policies relating to the specific educational design specifications for sites and buildings are being developed in conformity with these general policies.

All plans developed under these general policies should conform to all current legislative requirements, current board of education policies, and should meet the general recommendations of authoritative educational advisory groups.

I. The over-all educational plan

A. Extent of educational services

1. School facilities will be provided for an educational program extending from the kindergarten through the Junior College.

2. Facilities should be provided for community service programs such as, adult education, night school, veterans' institutes, out-of-school youth groups, summer schools, community group meetings, and recreational programs.

3. Facilities should be provided for nonresident groups on the basis of board of education policies relative to nonresident students.

B. Organizational pattern for providing school services

1. Buildings and sites should be planned to accommodate a K-6, 3-3-2 grade organization now, and a future K-6, 4-4 Plan.

2. Future buildings should be planned to house only one instructional division.

II. Considerations affecting the spacing, size and location of sites and buildings.

A. Basic school attendance areas should be established for each kind of school and for each school.

1. Elementary school attendance areas should approximate one square mile in area.

2. Junior high school attendance areas should approximate four square miles in area.

3. Senior high school attendance areas should approximate 16 square miles in area.

4. The Junior College attendance area should be established in a separate policy in conformity

with the board of education policy on nonresidents and on the advice of the State Department of Public Instruction.

5. Special attendance areas should be established for special schools, such as, neighborhood primary buildings and special education classes.

6. The attendance area should be free from such hazards as major traffic arteries, nuisances such as excessive smoke and noise.

7. Attendance area boundaries should emphasize such natural boundaries as major traffic arteries, rivers, corporate limits, and zoning restrictions.

B. Policies relating to the walking distance to and from schools are:

1. Maximum distances for different groups of school pupils:

a) Elementary schools — $\frac{3}{4}$ mile maximum

b) Junior high — $1\frac{1}{2}$ miles maximum

c) Senior high — $2\frac{1}{2}$ miles maximum

2. Exceptions:

a) Primary unit buildings may be established within an elementary school attendance area to reduce the walking distance for early elementary grade children.

b) The high school maximum distance may be changed where public transportation is available.

c) Walking distances will not be considered in locating such facilities as the Junior College, and summer schools.

d) Special education students are transported under Board policy.

C. Optimum building sizes will be considered as:

1. Primary units — 100 to 150 students

2. Elementary units — 400 to 600 students

3. Junior high units — 700 to 900 students

4. Senior high units — 1200 to 1500 students

5. Junior College — 1500 to 2000 students

D. The selection of specific school sites should recognize that:

1. The site should be in a residential section.

2. The site should be centered in its surrounding attendance area.

3. The site should be readily accessible to pedestrian, motor and service traffic.

4. A particular site should meet the following requirements:

a) Sizes

1) Primary units — 5 acres

2) Elementary units — 12 to 15 acres

3) Junior high units — 20 acres

4) Senior high units — 40 acres

b) Topography

1) Relatively level contour

2) Above flood levels

3) Above the general street level

4) Sufficient elevation for connections to sewer and water lines

c) Shape — square or well-proportioned rectangle (ratio 3:5)

d) Soil

1) Subsoil suitable for foundation

2) Surface soil suitable for plantings and playgrounds

3) Conditions suitable for natural drainage.

Under the general planning policies outlined above, seven elementary building projects have been started. These projects include both additions and reconversions. The simplest project on schedule is the addition of a larger and more complete kindergarten unit to one of the original neighborhood schools. This school probably will continue as a K-3 unit serving an outlying residential area. The most extensive reconversion of an experimental neighborhood school into a complete K-6 unit is exemplified by the Long School project.

Future projects will include an experimental home-school unit in one outlying residential area probably for grades K-2. Junior high school and senior high school developments are also scheduled for immediate development.

City Planning and —

How Zoning Affects the Location of School Buildings

*Russell A. Holy, Ph.D.**

The practice of zoning cities in the United States is quite recent. New York City passed the first zoning ordinance in 1916 and soon was followed by a number of other cities. Since that date, the idea has spread rapidly until at present all of the larger cities are zoned.

Zoning is the classification of property according to the use made of it. Most cities classify property under five divisions, namely: general industry, light industry, business, residential for dwelling houses and residential for apartment houses. Smoke, noise, dirt, and dust permeate the air for at least a quarter of a mile or even further. For this reason, residential areas should be removed far enough from industrial sections, so that they will not be annoyed by these objectionable features.

The question of school location is very closely related to the use of land in a city. The problem of the selection of school sites is greatly simplified if the city is divided

into definite zoned areas. Schools should be located only in residential areas, because the largest percentage of the school population is found in the residential sections and also because it would be very objectionable for a school to be located in a business or industrial area. The population of cities is constantly shifting and the boundaries of cities are continually changing. When the city extends its limits and new areas are taken in, it is of particular importance to zone this territory. When school authorities know that a certain section is to become a business or industrial zone, they will at once know it is unnecessary to select a school site in this area. On the other hand, when they know that a certain district is to become a residential division, it means that a school will be needed in the area ultimately. School boards are very much at a disadvantage in the choosing of sites in advance in new sections, when they do not know what use is to be made of the land.

*University of Kansas City, Kansas City, Mo.

Stabilization of Residential Areas

The stabilization of residential areas is one of the principal objectives of municipal zoning. Schools have been built in many unzoned cities in districts which later become dominated by manufacturing and industrial concerns. This usually means abandonment of the school and a loss to the taxpayer. Adequate division of the city for definite purposes would prevent such unnecessary losses. School boards should be hesitant about spending funds on schools located in areas that will later mean the building will have to be torn down.

The lack of a city plan and the mistakes resulting is very well illustrated in the case of a certain southern city. In 1910, the school buildings were on the edge of the business section. During the next ten-year period the population of the city increased very rapidly and in 1920 most of the schools were completely surrounded by the business district. The population living in the residential areas from which the larger percentage of the school population came, was forced out by business and industry. As a result, some of the schools were abandoned. New buildings had to be constructed in other sections to provide educational facilities. A good share of this loss to the city could have been avoided had the city been planned adequately and zoned in advance. If this had been done, provision would have been made for further growth and the direction in which the expansion was to take place, definitely indicated in the plan.

The regulation of density is an important part of all modern zoning regulations, but the methods of regulation vary considerably. In Great Britain, the method followed has been to measure density in terms of buildings or houses to the acre, while the increasing use of the apartment house or block of flats in the United States has led to the measurement of density in terms of square feet per family or families to the acre. A regulation of this kind is an advantage to those responsible for school planning inasmuch as the maximum population that may live in a certain area can be determined. Although it is true that the ratio of adults to children of school age varies in the United States as much as three to one, the number of schools needed in a section of apartment houses may be planned more wisely than if such a zoning regulation of density did not exist.

School Systems Must Develop

The increased enrollments in public schools and experience with modern educational and recreational standards indicate that school systems must be continually enlarged and improved. A city not having a plan and a definite zoning ordinance makes it difficult for a school system to develop. Where a city is not zoned, mistakes have occurred in the past which have meant economic loss. Schools have had to be abandoned in a number of instances due to a lack of foresight

and advance planning. Zoning is very definitely tied up with the entire school system. Only as city planning improves may the land of a municipality be better divided and devoted to purposes as intended. This is the function and objective of zoning. A school system situated in a well-planned and zoned

city has a distinct advantage for developing into an efficient school plant over one that is found where no attention or thought has been given to the further growth and expansion of the city. The entire problem of city planning, zoning, and the school plan are interrelated and interlocked in many phases.

Economy Through —

Segregated Bids vs. General Bids

Robert T. Elliott* and James H. Corson**

Many school districts are in the midst of a school building program or anticipating a school building program in the near future. Among the problems which face administrators responsible for the school building work is that of placing contracts on the basis of segregated bids or general bids.

By segregated bids is meant the acceptance of subcontractors' bids direct to the owners or the recognized agent as against the general construction bid practice of sub-bids given to the general contractor and used in the general bids submitted by the general contractor.

The Modesto City School District of Modesto, Calif., is in the midst of a 4.5 million dollar austerity elementary-school-building program. This program includes seven new elementary buildings, additions to four existing school buildings, and six completely rebuilt school buildings. In addition to the elementary building program, the Modesto City School District has spent one million dollars in rebuilding the existing high school, and in the near future will call for bids for a second high school. One million dollars has been budgeted toward the initial costs of the second high school.

Early in the building program described above it became apparent that there was considerable interest in the community in the matter of segregated bids and general bids. Because no literature could be found on the subject, a survey was made of representative school districts in California.

Seven Aspects of Problem

Seven questions were included in the questionnaire sent to the school districts selected. Interest in the questionnaire was apparent as most of the school executives who had received a questionnaire co-operated promptly in completing the data requested. In addition to the answers to the questionnaire, many of the school administrators wrote paragraph statements in regard to the matter. Architects were contacted and their replies are included with the school administrator's replies.

*Administrative Assistant, Modesto City Schools.

**Superintendent of Schools, Modesto, Calif.

Q. 1. In the construction program in the schools under your jurisdiction, have you had any experience recently in the matter of segregated bids and general bids? *Answer: Yes, 7. No, 2. General only, 2.*

Q. 2. If you have awarded any construction contracts recently using segregated bids, what subcontracts are generally segregated? *Answer: Plumbing, heating, electrical, mechanical, stage equipment, theater seats and lockers.*

Q. 3. Which type of bids have you found to be simpler in problems of administration? *Answer: General contract, 11. Segregated bids, 1.*

Q. 4. Which type of bids are most economical to the schools interest? *Answer: General, 8. Segregated, 2.*

Q. 5. If you have awarded any contracts recently based on segregated bids, has there been any increase in cost to the district due to the matter for additional school personnel to supervise the projects? *Yes, 3. No, 2.*

Q. 6. Under segregated bidding, has there been any difficulty experienced in co-ordinating the work of the subcontractors working under the segregated plan and the general contract? *Answer: Yes, 6. No, 1.*

Q. 7. Under segregated bidding does the general contractor have the responsibility for the entire project? *Answer: Yes, 1. No, 6.*

Costs Not Increased

In addition to the answers to the questionnaire the administrators added paragraphs enlarging upon the questions asked. One of the prominent architects replied: "It is my firm belief that the process of awarding a general contract for the over-all project places the responsibility in the hands of one organization and produces better results at no more cost than any suggested form of segregated bids and that detail in administering a job is much simpler." This same architect stated that the use of segregated bids makes the successful bidder a prime contractor with the same status as the general contractor with reference to lien rights. It also makes it necessary to prepare a complete set of contract documents for each bidder. Changes which may occur on the job will necessitate separate change orders. The whole process will

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The School Board Lays a Cornerstone

Herbert B. Mulford*

With the expansion of building construction for school districts over the country, questions recurrently arise with the school board concerning dedication ceremonies. When shall they be held; at the beginning or close of building operations? What shall the exercises be? Who should take part in them?

Scattered over the land are thousands of examples of one old and highly honored custom of dedication—the laying of the cornerstone. This stone is not confined to school buildings or those of colleges and universities, but is to be found in churches, temples, town halls, statehouses and other buildings for government, clubs, fraternal organizations and even for commerce and industry, too numerous to mention.

When the school board discusses the ceremonies, there readily come to mind alternatives to the cornerstone, such as digging the first spadeful of earth for the foundation excavation, placing a memorial plaque within the building upon its completion, dedication ceremonies upon occupancy of the building, and possibly other significant action. All have some bearing on identifying the high purpose behind the use of the new structure.

In trying to search out the most appropriate plan to use, the school board, the superintendent and faculty, or the architects not unnaturally may turn to dictionaries, encyclopedias, and popular books on architecture or building, for something to clarify their ideas. When they attempt to find a story on the custom of laying the cornerstone, the chances are that, without great diligence and tedious research, they will find nothing to explain the significance of their actions. They will very likely be left merely to their own assumptions concerning the custom; they will find no easily accessible formal account or history of the custom, because it has been neglected and almost lost in antiquity.

Symbolic Use of Stone

This may be surprising, for the word cornerstone is deeply embedded in our languages. But apparently for many years its usage as reported in the great dictionaries has been more metaphorical and symbolical than reflecting any present functional use of the stone as a foundation or support. Ages ago with the first use of brick foundations, there seems to have been the greater emphasis on the use of the typical cornerstone as wholly symbolic. Thus the custom of the stone and its laying attains different importance and significance in different communities and in different cases. Broadly, the word itself is commonplace in our language to express a basis or foundation upon which is reared a potential structure of character, belief and faith, economic security, public service, and many ways to such achievements.

*Wilmette, Ill.

If we turn to popular literature for clarification, we find the most tangible quotations in the Bible. In the Old Testament we find in the dramatic story of the afflictions of Job, the Lord asking the sufferer whereupon the foundations of the earth are fastened or "who laid the corner stone thereof?" In Isaiah we find, "Therefore, thus saith the Lord, Behold, I will lay a stone in the foundation stone of Sion, a corner stone, a precious stone." In the book of Psalms we find, "The stone which the builders rejected: the same is become the head of the corner." And the apostles Matthew, Mark, Luke, Peter, and Paul uniformly report Jesus Christ as using this quotation in one of his famous parables. And again in Psalms, "that your daughters may be as corner stones, polished after the similitude of a palace." Obviously with such common and metaphorical usage thousands of years ago, the actual practice of laying of the stone whose custom we now follow must have been even older.

The Medieval Custom

This assumption is borne out upon diligent research in ancient history. One of the significant records is that of the history of Assyria and Chaldea. It appears that the laying of the stone became a custom in earliest Chaldean history. Since Abraham came from Ur of the Chaldees, it is barely possible that the knowledge of the custom came to Palestine and into the Bible from those early Hebrew tribes. At that time it seems that under a foundation or angle stone various items were placed, not unlike the custom of today. They included the name of the founder, invoked the blessings of the gods and called down a curse upon anyone who should disturb the building. At that time usually the stone was called a foundation stone.

A French authority dealing with this custom in medieval times states that the founder of a building followed the custom of inviting friends to the laying of the first stone, and that contributions were given at the time by laying them on the stone. Seemingly the first stone was connected with the blessing of the building.

Tacitus, writing upon this subject in the first century, A.D. spoke of the first stone of the structure being laid. In an English dictionary of 1784, the foundation stone was called the first stone or the foot stone.

In more modern times, we find something of a transition reflected in the development of different editions of *Webster's Dictionary*, such as that for 1847, revised, compared with the current edition. We find no specific reference to the custom of laying the stone in the early dictionary; the usage was still largely metaphorical. In the later edition we find, to quote the entire definition, "1. A stone forming part of a corner or angle in a wall; especially such a stone lying at the

foundation of a principle angle; specifically, one laid at the formal inauguration of the erection of a building, usually inscribed with the date or other matters, and often hollowed out to receive records, documents, or relics. 2. Hence: something of fundamental importance; a trait or fact upon which others rest as if forming a superstructure." Although here we have definite allusion to a custom, we find neither here nor in common books of reference a clear description of the source or history of the custom.

The current use of the custom fluctuates with the desires of the authorities who plan and dedicate the building, whatever it may be. There seem to be periods when there is greater activity in such usage than in others. That the custom is known around the world and finds formal international acceptance and approval seems to be indicated by the fact that last October the representatives of the 59 nations making up the United Nations gathered in New York City to attend the cornerstone laying for the new building of that organization. Among the dedicatory speeches was that by the President of the United States. Possibly this occasion may have served to afford the greatest publicity given to the custom in many generations.

School Cornerstone Layings

Reports from architects indicate that there is an increase currently in the use of the cornerstone and its attendant ceremonies. Since children often participate in the exercises, some school boards are doubtless influenced in their planning by the educational benefits to their pupils. Often the stone bears merely the date of its laying, but the ceremonies are still impressive. In the more formal exercises the hollowed-out stone is used. A metal container to receive documents, records, and relics usually is made to fit the stone, and provision is made to seal this container so as to preserve the contents as long as possible. With such a stone, the school board usually has in mind that generations later, when the building may be accidentally damaged or intentionally razed, historical significance may attach to the contents. Not least of interest and significance in this respect is the knowledge gained through participation by the children. Of course, the same general values attach to religious or other significance in laying the stone for a church, a civic or other building.

Possibly a typical school ceremony would include the following:

1. Opening of ceremonies by president of the school board
2. Invocation by a clergyman of the community
3. Remarks by several representatives of the school administration, faculty, pupils, PTA and general citizenry, in which the opportunity is taken to deposit fitting materials in the metal receptacle
4. Actual laying of the cornerstone or sealing of the metal box
5. Benediction, possibly by a second clergyman of the community

Increasingly it seems that these ceremonies are deemed significant enough to have motion pictures taken of the various actions and also to have the speeches recorded by phonograph or wire recorder. With the marked increase in audio-visual methods of education, such

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Daylight in Classrooms

R. L. Bieseke, Jr.*

Effective use of daylight in classrooms is a matter of particular concern to school officials, who are being entrusted, to an ever increasing extent, with responsibility for the health and development of the next generation.

Such studies as are available have indicated a profound and intimate relationship between the visual environment in the classroom and the health, the physical and mental development, and the educational progress of the school child. Other studies have indicated the probable basic requirements for a beneficial visual environment. These requirements were incorporated into the American Standard Practice for School Lighting, 1948, chiefly as Tables I and II, which are reproduced here. Unfortunately, many gaps still remain in our knowledge of the physiological and psychological processes involved, and much research remains to be done in these areas.

Meanwhile, urgently needed schools are being planned and built, and existing schools continue in operation. These schools rely chiefly on daylight through windows for classroom lighting. It is therefore essential that school officials, their architects, and their lighting engineers know the practical techniques which are available for using daylight to produce beneficial visual environments in classrooms.

Progress in this field has been largely a trial and error process, although some engineering studies have been made during recent years. These have included those of Professor Leland H. Brown in California, and others previously reported by the author at the

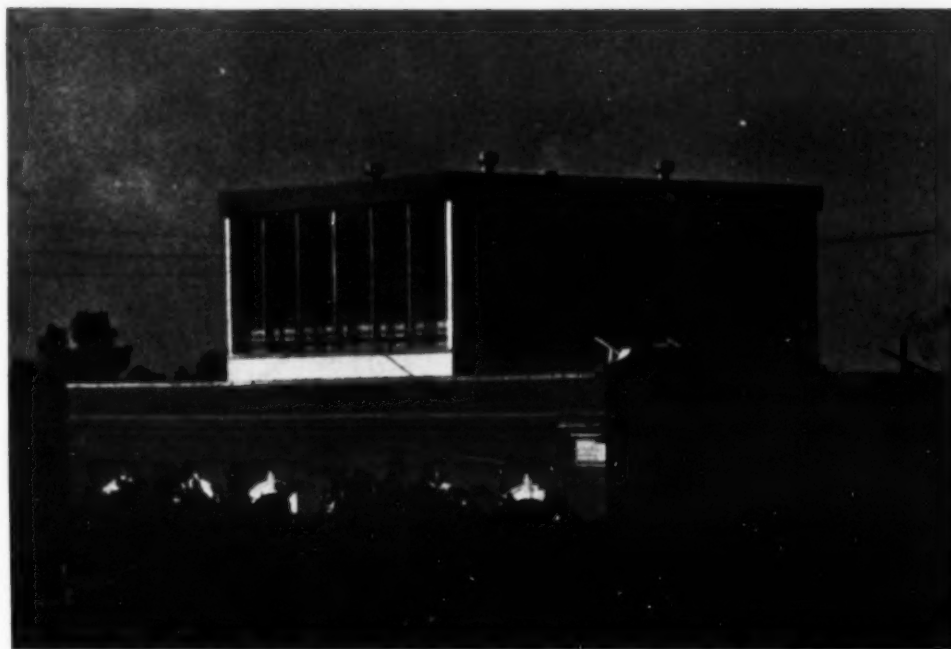


Fig. 1. Daylight test house on Steam Plant, Southern Methodist University.

W. M. White School, Mexia, Tex.; the University Park Elementary School, Dallas, Tex.; and the Rosedale School, Austin, Tex.

A broader attack on the problems has appeared desirable, however, and an extensive series of investigations in this field has been undertaken at Southern Methodist University under the joint sponsorship of the Detroit Steel Products Company and the Libbey-Owens-Ford Glass Company. The investigations have consumed some two years, and are still continuing. The purpose of the studies has been to develop information which will

assist in effective design for daylight in schools.

Engineering Studies

The study program has been conducted in an especially built structure 32 ft. square, located on the roof of the steam plant at Southern Methodist University. The location gave an unobstructed sky and the building was oriented so windows face cardinal compass points. Steel sash windows cover the full extent of each wall between the levels of 3½ and 14 ft. above the floor. The ceiling



Fig. 2. The daylight test classroom with the author testing the light produced by clear glass windows.

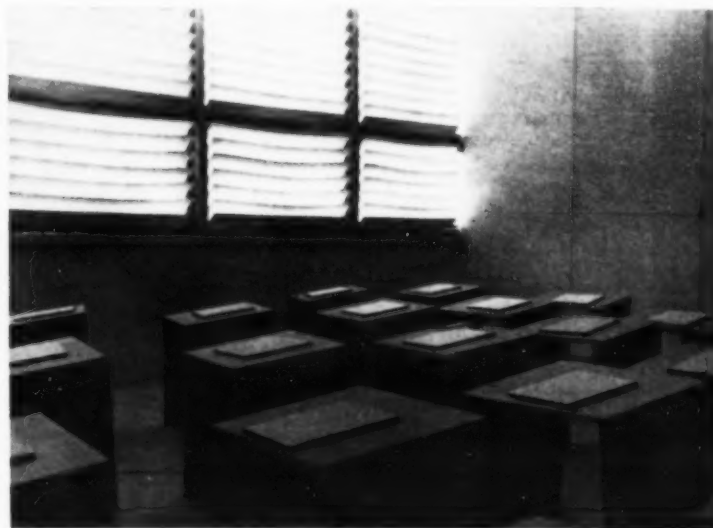


Fig. 3. The test classroom showing windows equipped with horizontal louvers.

*Professor and Head, Dept. of Electrical Engineering, Southern Methodist University, Dallas, Tex.



Fig. 4. Heads-up field of view from test position I showing uniform brightness pattern obtained with effective daylight design.

was so suspended that it could be adjusted in height. Movable partitions were made so that any side could be the light receiving side. Mock-up desks were employed, their tops tilted at 10 degrees.

While studies of various window arrangements have been made and are continuing, the studies conducted during the earlier portion of this program have been confined largely to unilateral window arrangements. Hundreds of measurements have been made, employing usually a room 24 by 30 ft., with 12-ft. ceiling, and with windows in the left wall only, having an area representing 34 per cent of the floor area. The measurements have covered almost every possible type of daylight condition.

The studies have been concentrated on unilateral window arrangements for several reasons: (1) They are almost universally found in existing school buildings. (2) They usually produce the most economical design for new buildings. And (3) the solution of unilateral

lighting problems has presented the greatest design challenge.

Design Recommendations

The set of design recommendations given here is an attempt to crystallize in abridged form the conclusions of the studies to date. They should be taken as applying primarily to rooms having dimensions roughly approximating those given above, with windows in one wall only.

A. Correlation

Effective daylight design requires the correlation into a unified design of such elements as the orientation, windows, glass, shielding or other regulatory devices, decoration, and seating, which are under the control of the

designer. In addition, the design must take into account two widely different daylight conditions, and must consider the effect of outside obstructions or reflecting surfaces.

B. Daylight Conditions

1. A clear sky without sun, or an overcast sky, acts as a diffuse, nondirectional source of moderate brightness. Design of a classroom for most effective use of daylight from this source requires large window areas which need little shielding if proper seating arrangements and decoration are employed.

2. The sun is an intense source whose position is constantly changing. Adequate shielding of all types of glass areas in direct sunshine is required for good daylight engineering. Considerable absorption can be tolerated in the shielding device, but only when the sun is shining on it.

3. Daylight designs for classrooms except

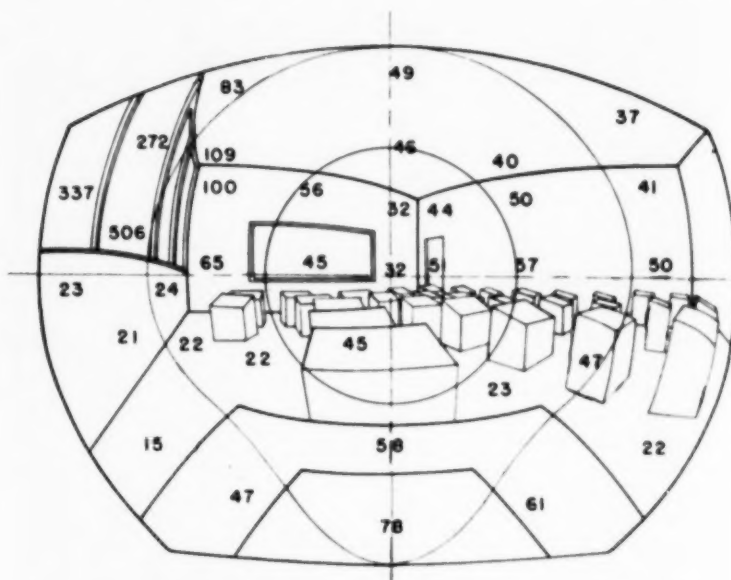


Fig. 5. Typical brightness pattern for heads-up field of view from test position I, with clear north sky, clear glass windows without controls.

TABLE I. Recommendations for Limits of Brightness Ratios in Schoolrooms¹

(Rooms used by faculty or pupils for educational purposes—First four groups in Table II)

	Ratio
a) Between the "central visual field" (the seeing task) and immediately adjacent surfaces, such as between task and desk top, with the task the brighter surface*	1 to 1/3
b) Between the "central visual field" (task) and the more remote darker surfaces in the "surrounding visual field," such as between task and floor**	1 to 1/10
c) Between the "central visual field" (task) and the more remote brighter surfaces in the "surrounding visual field," such as between task and ceiling**	1 to 10
d) Between luminaires or windows and surfaces adjacent to them in the visual fields	20 to 1

¹American Standard Practice for School Lighting—1948.

*Chalkboard and some art and shop tasks are illustrations of cases where the reverse ratio of 1 to 3 may apply.

**These ratios apply for areas of appreciable visual size as measured by the solid visual angle subtended at the eye. Luminous areas are generally small in size in this respect.



Dr. Biese making a typical brightness test in a typical schoolroom.

TABLE II. Lighting Levels at Work (Maintained in Service)¹

Current Recommended Practice

Locations	Minimum Foot Candles
Classrooms—on desks and chalkboards*	30
Study halls, lecture rooms, art rooms, offices, libraries, shops and laboratories	30
Classrooms for partially seeing pupils and those requiring lip reading—on desks and chalkboards*	50
Drafting rooms, typing rooms, and sewing rooms	50
Reception rooms, gymnasiums, and swimming rooms	20
Auditoriums (not for study), cafeterias, locker rooms, washrooms, corridors containing lockers, stairways	10
Open corridors and storerooms	5

¹American Standard Practice for School Lighting—1948.

*Where schools use chalk boards extensively for demonstration purposes, higher levels than those indicated are desirable.

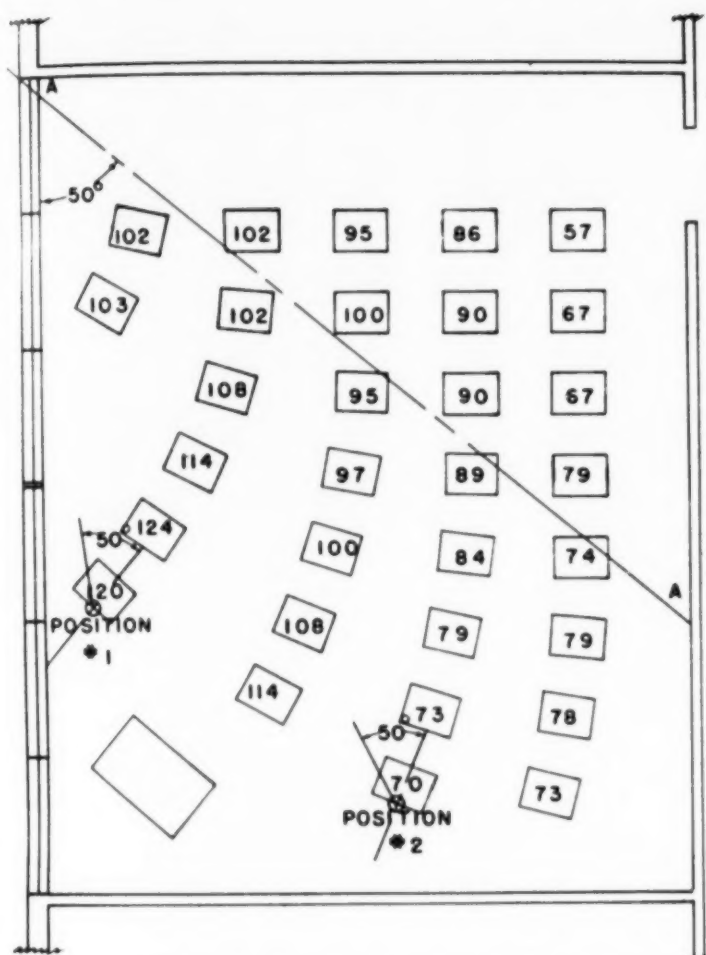


Fig. 6. Typical distribution of illumination on desk tops, with clear north sky, clear glass windows without controls.

those facing north must provide for illumination at various times either by a clear sky without sun, by an overcast sky, or by direct sunshine.

C. Orientation

1. In northern latitudes, orientation of the fenestration in a southerly direction will bring in the maximum amount of daylight.
2. In southern latitudes, north fenestration will minimize solar heating.
3. In some locations, local conditions such as confining sites, presence of other buildings, or prevailing breezes needed for natural ventilation may govern the selection of orientation.
4. In all elevations other than north, shades or blinds should be provided in window openings to control excessive sky or solar brightness.

D. Exterior Surroundings

1. The amount of daylight entering school windows may be influenced to a marked degree by exterior surroundings — such as wings of the same building, near-by buildings, pavement, playground areas, grass plots, and other surfaces.
2. Where these obstruct the windows, they may materially reduce the available daylight.
3. Where they act as reflectors, they may increase the light entering the room, particularly by reflecting daylight far back into the room.

larly by reflecting daylight far back into the room.

E. Windows

1. Large effective glass area will provide a high quantity of illumination. Windows should extend the full length of the left wall and as near as practical to the ceiling. The upper portion of the window is most effective in getting daylight to the far side of the room.
2. Any reduction in effective glass area gives a proportional reduction in illumination. Structural or supporting members in the window area, mullions, muntins, and window heads should therefore be held to a minimum. If piers are used, they should be narrow. Deep reveals should be splayed.
3. Interior surfaces within the window area should be light in color.
4. Adequate provision for natural ventilation should be incorporated in the window treatment.

F. Glass

1. Clear flat glass has the highest light transmission, is easiest to clean, and reduces eye fatigue resulting from close visual tasks by allowing pupils to see outdoors. Clear glass is therefore considered the basic type for classroom windows.

2. Under certain sky brightness patterns, a more uniform light distribution across the classroom may be provided by patterned flat glasses such as prismatic or hammered glass. Such glasses, if employed, should be used in the upper portion of the windows above a clear glass vision strip.

3. Adequate shielding is essential where patterned glasses are employed on sun exposures, in order to provide proper control of brightness.

G. Shielding Devices

1. Non-Sun Exposures

- a) Satisfactory brightness patterns can be produced without shielding on non-sun exposures if proper seating arrangement and decoration are used.
- b) Interior Venetian blinds improve the brightness distribution with some loss in illumination. They are indicated where bright hazy skies are encountered.

2. Sun Exposures

- a) Satisfactory brightness patterns require effective shielding devices such as roller shades or Venetian blinds. Roller shades should be of the most translucent shade cloth commercially available and should be so arranged that

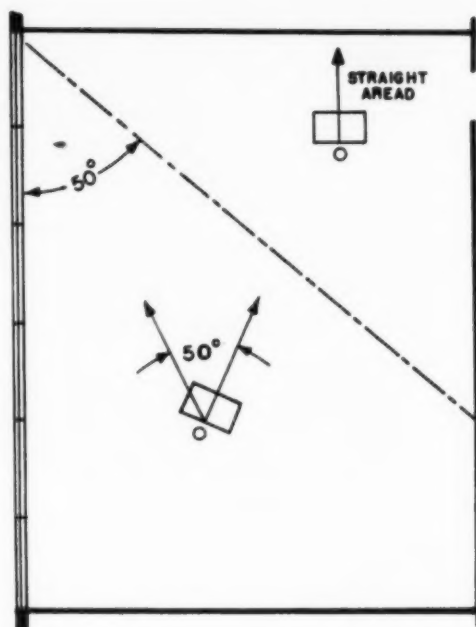


Fig. 7. Diagram showing principles of desk orientation.

streaks of sunlight cannot get by the edges.

- b) Venetian blinds should be adjusted to a position so as to afford complete cutoff at the horizontal and should have white blades. They should be readily raised to the top of the window opening, or adjusted to a position with the blades horizontal, when there is no sun and no bright hazy sky.

H. Decoration

1. Reflection factors of all surfaces in the classroom are important in providing proper visual environment which meets the quality and quantity standards of good illumination. The following ranges of reflection factors are recommended, based on the test results.

	Per Cent
Ceilings	80-90
Walls	50-60
Floors	25-35
Furniture	30-50
Chalk Boards	25-30
Tack Boards	35-50

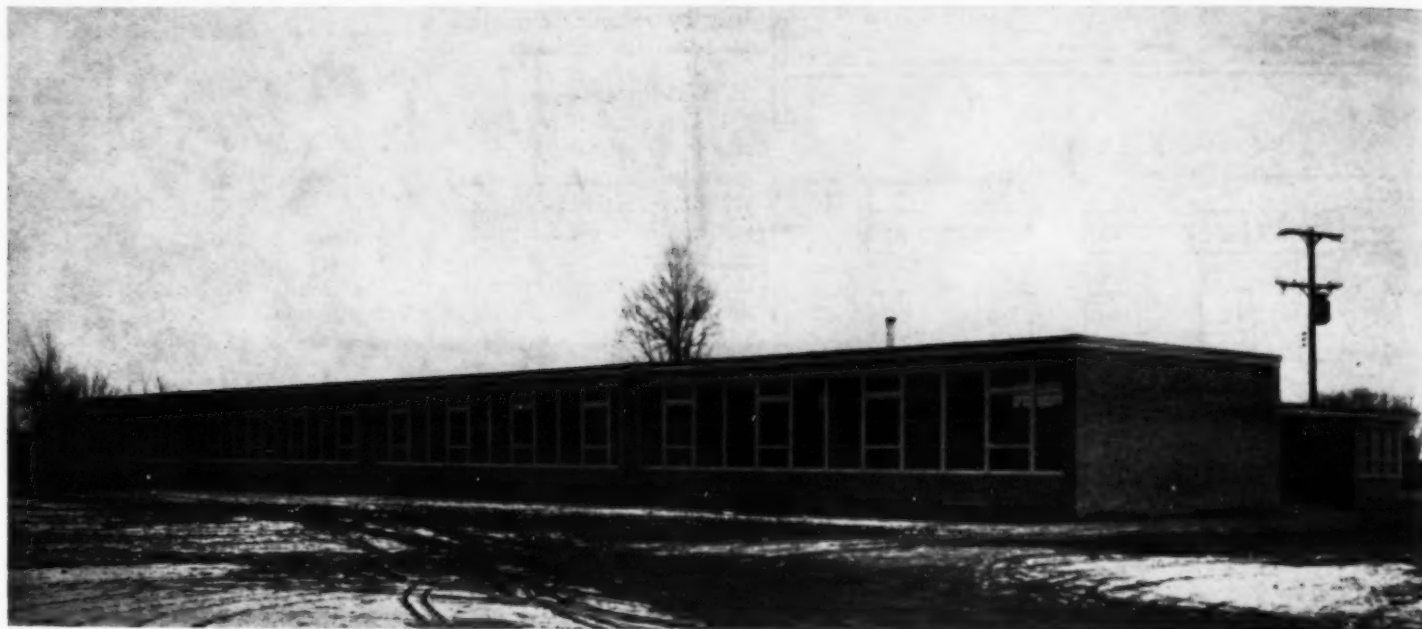
2. All finishes should be nonglossy, to prevent bright reflections.

I. Seating

A desk arrangement which will eliminate the areas of high brightness in the visual field is a key factor in improved classroom visual environment. This is accomplished as follows and as indicated in the diagram:

1. Those seats located ahead of a line making an angle of 50 degrees with the window, and extending inward from the front of the window should be faced straight ahead.
2. Those seats located behind a line making an angle of 50 degrees with the window should be oriented so that no child faces forward at a horizontal angle less than 50 degrees with the window area.
3. The total number of seats so arranged is optional and should be governed by the

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Exterior, Maple Grove School, near Lansing, Michigan. — Warren S. Holmes Co., Architects, Lansing, Michigan.

The Maple Grove School Near Lansing, Michigan

Clarke Harris and Harley A. Franks**

The Maple Grove School is designed on the finger type plan to be built in units with provisions for future additions from time to time as this fast growing suburban community may require.

The single loaded corridor with square type classrooms and bilateral lighting has been adopted as offering better natural lighting and other inherent advantages for grade children.

The unit just completed comprises ten classrooms, library and general purpose room or one finger of the contemplated plan. Future additions provide a gymnasium-auditorium to serve also as a community room which will form a new street frontage as indicated on the plan.

This new unit houses the two kindergartens and grades one to four, inclusive. Grades five to eight must continue to be housed in the old portables until such time as bonds can be paid off or valuations increased to pay for more construction.

The new unit is of fire resistive construction with face brick on all exterior elevations and painted cinder block interiors.

The heating and ventilating is provided by a packaged unit oil-burning steam boiler with unit ventilators in the classrooms.

The construction cost for this 10-room unit complete with heating, general purpose room, library, and heating plant was \$151,909.

*Mr. Harris is a partner of Warren S. Holmes Company, Architects, Lansing, Mich., and Mr. Franks is principal of Maple Grove School.

Economy Versus Educational Advantages

The property of this school district is

entirely residential; its citizens are working people who seek the advantages of the best city schools for their children without the



Detail of typical classroom. Teacher's closet at extreme front adjacent to sink case. Exhibit case and storage cabinets under clock. Reading case with pupils at each side.



Library — Note how the wide shelving at the base for large books forms a convenient work top.

advantage of commercial properties to boost the taxable valuation on which the cost of construction and operation must be financed. For this reason the maximum of economy in construction and maintenance costs consistent with a permanent investment was essential.

The situation was not construed, however, as being economy to eliminate these features in this building necessary for conserving the health and improving the best educational uses of the time of teachers and pupils. To this end features have been incorporated in the

building to make it compare favorably with the best school plants to be found anywhere, regardless of cost.

The Classrooms

The classrooms have been made 27 by



West end of general purpose room showing exhibit case and piano.



The general purpose room as arranged for the school lunch.

30 ft. in area, which is an increase in area of 22 per cent over the old standard size of 22 by 30 ft., to give additional floor space for work-study projects.

The ceilings are acoustically treated and asphalt tile has been used for finish floors to reduce the sound reflection factors to the point where work projects can be successfully carried on.

Likewise, the lighting in the classrooms has been stepped up to a corresponding degree. This was accomplished for the natural lighting by making it bilateral, with the classroom windows facing north and secondary light introduced over the corridors by means of directional glass blocks.

The interiors illustrated were taken on a dark, cloudy November morning when the meter readings were found to be a minimum of 70 foot candles at the case wall and a maximum of 140 foot candles at the north windows. The artificial lighting provides 20 footcandles on the pupils' desks and tables.

A full line of specially designed storage and exhibit cabinets has been incorporated along corridor walls of the classrooms. These comprise 20 linear feet of cabinets 7 ft. high as follows: teacher's closet, 4 linear feet; reading case, 4 ft.; project case, 4 ft. (sliding door with cork tack board front); exhibit case, 4 ft. (plate glass front and shelves); and sink cabinet, 4 ft. These cabinets are in addition to the shelving, work top, and cabinets provided with the packaged heating unit under the classroom windows.

The end walls of the classrooms are provided with tack boards, chalk boards, and adjustable map and hanging strip hardware.



Typical view of window wall. Note the unit ventilator in center with shelving and enclosed cabinets at ends which provides valuable work tops.

The classrooms are decorated in soft tinted colors which vary from room to room.

The unit type heating and ventilation provides positive ventilation, so necessary to overcome the disinclination to study attendant upon poor ventilation in severe weather climates such as Michigan has during long winter months.

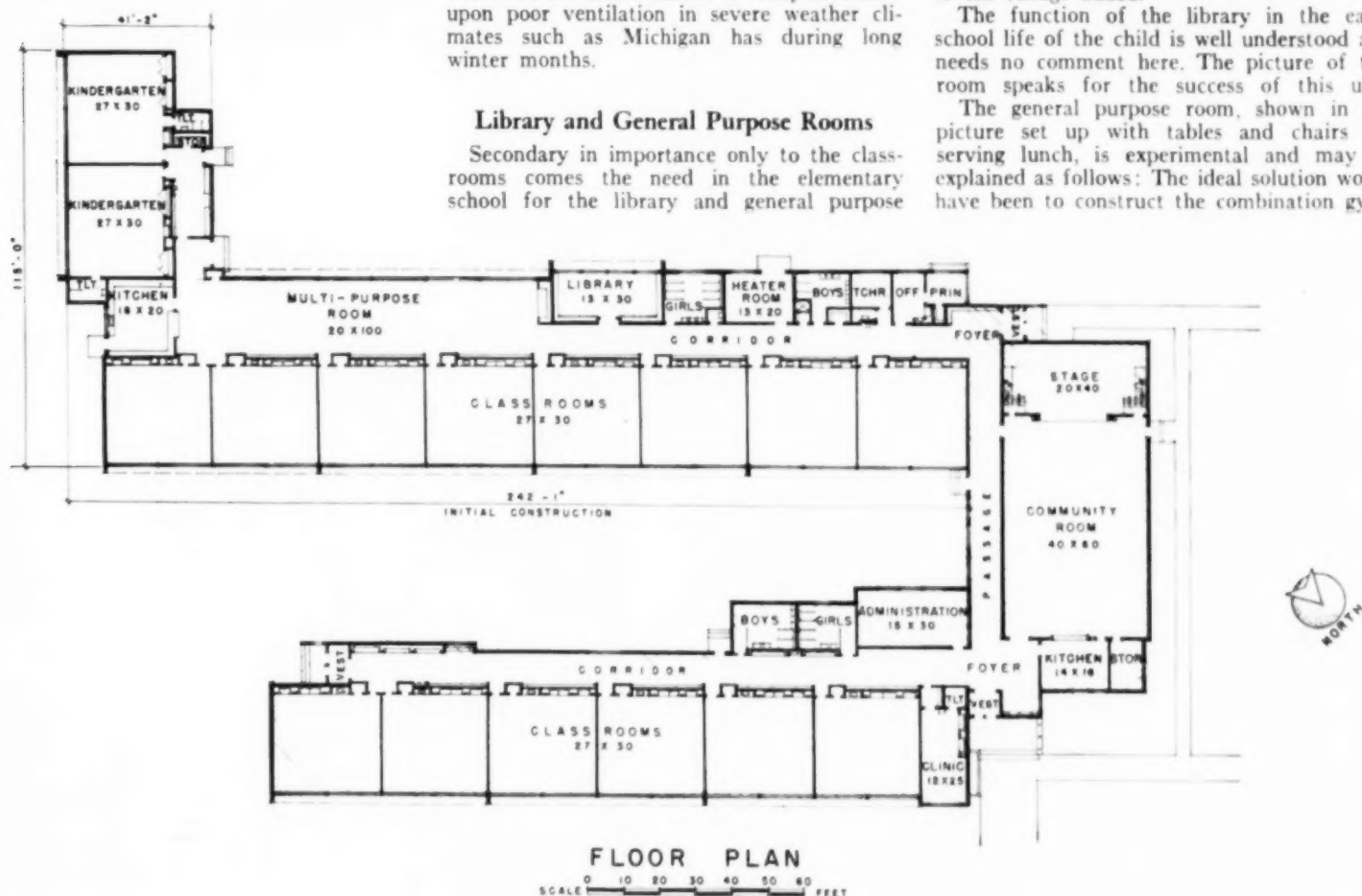
Library and General Purpose Rooms

Secondary in importance only to the classrooms comes the need in the elementary school for the library and general purpose

rooms. This was provided by simply widening the corridor to give the necessary floor space. This scheme provides a solution without adding to the cost of construction in proportion to the cubage added.

The function of the library in the early school life of the child is well understood and needs no comment here. The picture of this room speaks for the success of this unit.

The general purpose room, shown in the picture set up with tables and chairs for serving lunch, is experimental and may be explained as follows: The ideal solution would have been to construct the combination gym-



Maple Grove School, near Lansing, Michigan. — Warren S. Holmes Co., Architects, Lansing, Michigan.



(Left) Typical view of one of the kindergartens. Block case at extreme left (folding doors). Foods and dish cabinet with low sink and counter (center). Door to toilets to right of clock and classroom door at extreme right with exhibit and bookcase between these doors. (Right) A corner of the kitchen showing a bit of the serving window at left.

nasium-auditorium community rooms shown to form the future front of this building, but the cost of this for the present was prohibitive. However, space that could be used for visual education purpose, for serving lunch and, equally important, for community gatherings seemed imperative.

To continue the width of the building

necessary at the front for providing the offices, toilets, heating plant, and library seemed a logical solution, although admittedly it does not provide for playing basketball and other uses dictating a high ceiling.

Since the cost of this building computed at approximately \$15,000 per classroom includes both this general purpose room with

kitchen and library, the economy of this plan is apparent.

The kitchen is compact but exceptionally well equipped to serve lunch to 250 pupils daily. A full scale banquet dinner was served with these facilities to the 250 patrons of the school district who attended the opening exercises and dedication of this building.

Southern City Accepts Responsibilities —

Equal Educational Opportunities for Baton Rouge, Louisiana *George A. Smalling**

There has been a great deal of discussion, pro and con, with regard to educational opportunities in the South, and particularly with regard to the slow progress made in the education of Negroes. It is highly important, however, before any just criticism can be made, that consideration be given to a summary of the problems involved. It is essentially true that present facilities provided for Negro education are not on a par with the white schools of the South. The problem in each state, however, cannot adequately be handled by legislation, criticisms, or other generalizations which might indicate at first glance to be willful negligence of a minority race. The problem in each state cannot be solved immediately and, when interpreted in terms of dollars, would total into the hundreds of millions and could not be accepted immediately by any state for obvious financial reasons.

These facts do not mean that the southern

*Supervisor, Schoolhouse Planning and Research, East Baton Rouge Parish, Baton Rouge, La.

EAST BATON ROUGE PARISH BUILDING BUDGET

	White Schools	Negro Schools	Total
Classroom units	\$3,187,644.42	\$2,755,200.00	\$5,942,844.42
Auditorium-gymnasium	1,479,600.00	654,000.00	2,133,600.00
Gymnasiums	733,200.00		733,200.00
Shops	81,600.00	76,800.00	158,400.00
Cafeterias	458,958.00	186,000.00	644,958.00
Equipment	618,000.00	347,000.00	965,000.00
Land improvements	116,500.00	50,000.00	166,500.00
Total	\$6,675,502.42	\$4,069,000.00	\$10,744,502.42

SUMMARY

Amount of total column	\$10,744,502.42
Sites purchased to date	141,510.12
Additional sites to be purchased	125,000.00
Repairs and contingent fund	468,987.46
Total	\$11,480,000.00

states are neglecting the Negro problem or that they are not keenly aware of the many problems and responsibilities to be faced. It is important to emphasize and re-emphasize the fact that long-range solutions are now under way and, in many cases, Negro facilities

in the South are equal to or superior to existing white facilities. It is true that these conditions exist chiefly in the larger urban areas, but, again, it is indicative of the sense of responsibilities among Southern educators and Southern taxpayers.



Second Floor Plan, Easy Town High School, Baton Rouge, Louisiana.

These trends are clearly shown in the present building program for the capital city of Louisiana, Baton Rouge. As is clearly indicated by the building budget approximately 40 per cent of the total program is being used for Negro facilities. This 40 per cent figure is also the approximate percentage of Negro population for the city of Baton Rouge and East Baton Rouge Parish.¹

The maximum expenditure of dollars, however, does not give a full picture of the acceptance of responsibilities unless and until the same careful analysis is made of the program of education and its relationship to real needs and maximum development of

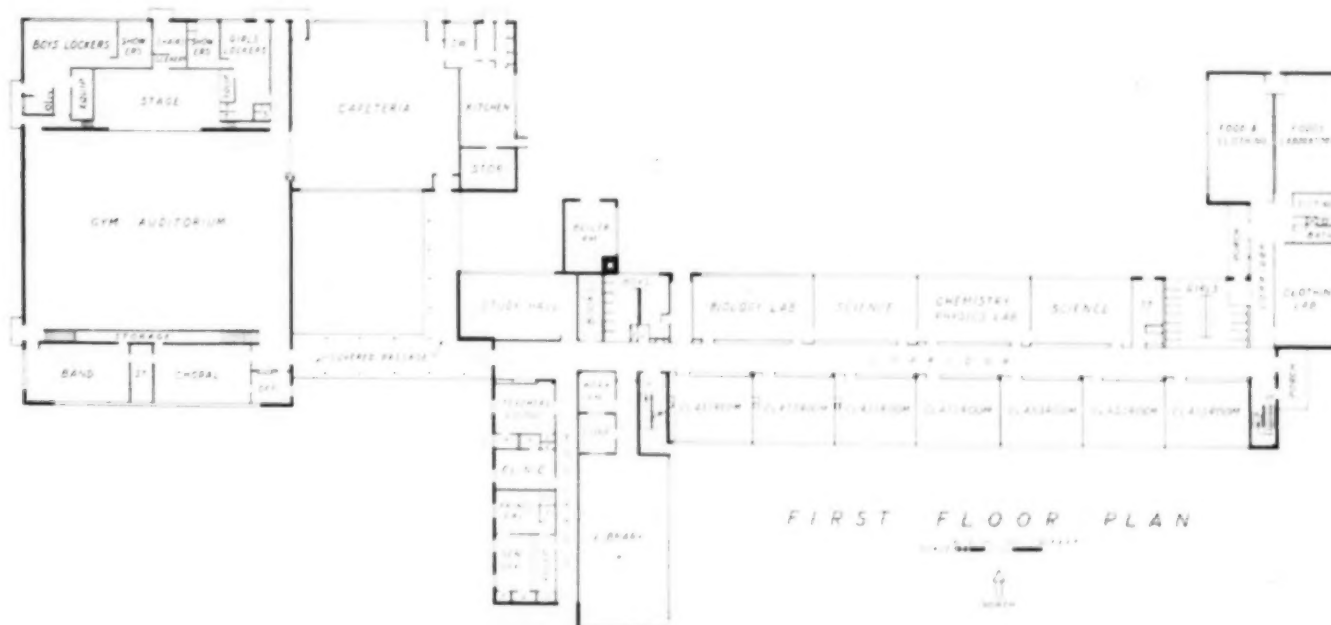
possibilities of all the children. In Baton Rouge² identical procedures have been followed with regard to meeting the educational needs of Negroes as have been given to white schools, i.e., occupational trends, curriculum revision and adjustment, cultural development, and subsequently, the more technical aspects involved in the development of a building program, such as site selection, co-operative building planning, and construction of the facilities based on the factual evidence of the needs.

No longer is it true that new construction for Negroes in rural areas is a makeshift and haphazard affair. The same careful consideration of all the problems involved is being

Op. cit.

given in these rural areas, and, if at all possible, the same quality of construction is maintained in permanent type structures. It is not our intention to indicate that all the needs are being met at one time or that we are able to move as rapidly as we might desire. It does mean that fair and equitable procedures are being followed, regardless of race, and that no area is being neglected in order that complete facilities may be provided for their more fortunate neighbors. The total amounts of money indicated in the budget above were conceived from the very beginning to meet the physical needs for a period of only five years. Due to the rapid growth of Baton Rouge and East Baton Rouge Parish, it has been advisable to proceed in most cases

¹Parish-wide school administration corresponding to a county-wide system is in effect.



First Floor Plan, Easy Town High School, Baton Rouge, Louisiana. — A. Hays Town, Architect. Baton Rouge, Louisiana. The plan is arranged for maximum utility by both the student body and the adult community.



Air View of the Easy Town High School, Baton Rouge, Louisiana. — A. Hays Town, Architect, Baton Rouge, Louisiana.

with the erection of classroom units alone in order that the children might be housed during this period of rapidly increasing population.

In general, all our schools are being developed with this over-all objective in mind — that we shall have the best quality buildings possible for the least amounts of money, and that every unit shall be studied, designed, and planned to meet the needs as they actually exist and which are peculiar to this climate, educational needs, and social grouping.

A typical unit, for both white and Negro, will include the classroom section, with its various learning laboratories and departmental offerings; a playroom (gymnasiums in junior and senior high schools) with adequate physical development, dressing rooms, toilets, and related areas. In each case considerable thought and planning has been done with regard to the use of these facilities jointly by schools and community recreation programs. Each new facility will also contain a lunchroom (designate as lunchroom in the state of Louisiana due to the state-wide federally aided lunch program), as well as adequate related areas, such as, kitchens, pantries, toilet facilities, and janitor storage in order to provide a complete lunch-service unit. In most cases, the lunchrooms have been designed so that the kitchen areas may be entirely separated from the serving areas through the use of soundproofed partitions and in order that the serving areas might become available for other activities when actual serving was not in progress.

Due to the fact that we have an abnormal amount of rain in this section, it has been necessary to make provisions for adequate walks, drives, covered entrances, porte-co-

cheres, etc., for maximum program articulation. Attempts have been made, in all cases, to secure maximum adequate sites for the location of these schools, with considerable emphasis being given school and community needs for paved play areas and other related spaces in which to offer a well-rounded program of physical development for children and adults alike.

Climatic conditions (particularly with regard to the control of sunlight) has caused us in most cases to disregard concepts of buildings for other latitudes and to attempt to meet our own needs and solve our own problems. In many cases, this has resulted in architectural innovations. It is quite revealing with regard to our over-all problem to drive through a wooded area and suddenly come upon a rambling wide-eaved one-story structure which might typically contain the following physical features: 900 sq. ft. classrooms with northern and southern exposures and maximum utilization of the best research to date in providing physical and visual comfort, i.e., acoustically treated ceilings, painted pastel plaster walls, green chalk boards, blond and beige student and teacher furniture, "C" schedule asphalt tile floors, with considerable counter height work areas, bookcases, student storage facilities, sinks, etc., and provided with sufficient incandescent fixtures to provide recommended-desirable "seeing conditions" and visual comfort at any time during the day or school year.

All new schools are being provided with teachers' lounge and toilet facilities, clinics, central book repositories, clock and bell systems, and conduits for intercommunication systems when additional funds are available.

In most cases, toilet and shower areas are finished with ceramic glazed tile with adequate facilities provided for maximally desirable controlled peak enrollments.

Due to the fact that there has been considerable and rapid growth in heavy industries in this locality, the prices we have been paying for our buildings have to date been slightly higher than other cities of this area, and buildings of the type indicated above have varied in costs per square foot from approximately \$10.28 per sq. ft. to \$13.75 per sq. ft. when architect's fees are included. The majority of our buildings are permanent type structures. However, we have learned much from our buildings in the past and have made provisions in every case to expand or alter the structures with a minimum of time, effort, and money involved. The larger buildings requiring heavy corridor traffic loads are provided with terrazzo floors for cleanliness and durability.

We believe that the wise selection and use of materials and the omission of such structural "hang-overs" as parapet walls and many other such "copied" structural types will be evident in years to come in low maintenance and upkeep costs, and in maximum utilization of these buildings so long as the program of education is of a nature which requires a roof over the children's heads, protection from the forces of nature, and comfortable inviting areas in which to grow and develop.

It is true that we still have a long way to go in order to provide equal educational facilities and opportunities for all youth. One point, however, should be indelibly fixed in the minds of readers of other areas: In most

(Concluded on page 99)

School Building Needs of San Francisco's Adult Education Program — III

*Edward H. Redford**

Previous articles have described what the Adult Education Division of San Francisco's public schools feels are its building needs in terms of special provisions in regular day-school buildings and in terms of a specialized artcraft and homemaking center. Yet to be described are certain needed facilities which ideally should be a part of the artcraft and homemaking center but which, of necessity, probably will have to be housed elsewhere.

In this category fall the adult counseling center, the Volunteer Bureau, a Family Relations Center, a Pan-American Center, a theater workshop unit, and an auditorium.

1. Counseling Center

There is a growing tendency for adults everywhere to look to professional counseling services for help with their problems and for assistance in helping them to view objectively their own personal assets and liabilities so that they can make intelligent plans for their future. And, specifically, a program of adult education, vocational or otherwise, can only be really effective if individuals can call on it for the counseling service which will make their participation in it worth while. It should be mentioned, also, that a program of parent education, and, specifically, one for the parents of delinquent children such as we are attempting to operate, must lean particularly heavily on the availability of adequate professional counseling services as a part of the program.

That adult counseling can be made to function effectively has been adequately demonstrated in San Francisco by the Veterans Counseling Center and by the Center's gradual expansion into the field of general adult counseling rather than limiting itself solely to work with veterans.

But whatever the location of such a counseling center, provision must be made for individual counseling cubicles for a minimum of eight counselors, each 100 sq. ft. in size; for one test room of 600 sq. ft. equipped with tablet-arm chairs; for one room, 12 by 12 ft., suitable for administration of individual tests; for a room 600 sq. ft. in size to house four clerks; for a waiting room and reception desk space totaling 400 sq. ft.; for closet space for the storage of test forms and records, having at least 350 ft. of shelving; and for a conference room.

2. The Family Relations Center

This service peculiar to San Francisco works with community organizations. It needs two offices of 100 sq. ft. in size plus a combination workroom-reception room of 350 sq. ft. In this room should be provision for 500 ft. of book shelving. Storage space also will have to be provided for audio-visual equipment.

3. The Volunteer Bureau

This organization works with all community nonprofit agencies. It recruits volunteer workers to supplement the staffs of the agencies, trains the volunteers, supervises them on their jobs, and gives them supplementary training as necessary. Principal building needs of the Bureau are a private office for the director, at least 100 sq. ft. in area, and an adjoining combination reception-workroom having a floor area of 500 sq. ft. This room will provide space for a full-time clerk, for two or three volunteer workers, and for visitors. Since it will receive a constant stream of persons throughout the day, it should be readily accessible from the street.

4. The Pan-American Center

This service is proposed as a clearinghouse and as a training center for those trading in or wishing to visit in the American countries to the south of us. It should be in the nature of an extra large classroom equipped with radio, phonograph, and motion picture facilities, with storage display shelves totaling 500 ft. in length for books, newspapers, and other publications, and with at least 150 sq. ft. of pinning board space. It should be equipped with a sliding blackboard so that materials placed on the board for use in foreign-language classes can be obscured until needed.

5. The Theater Workshop

The Adult Education Division in San Francisco has developed a theater program which has become a true community enterprise. Adopted by official action of the City's Board of Supervisors and by proclamation of the mayor, this has become officially the San Francisco Municipal Theater.

Since adults who will produce the theatrical shows that form a part of this program must work long hours at night and on the week end when they are not engaged in their usual occupations, the matter of providing watchman service will be extremely aggravating unless provision is made for the workshop to be a separate unit. Whether the workshop be housed individually or in a large building also used for other purposes, arrangements must be made so that participants may work therein at odd hours without leaving vulnerable parts of a building and thus require the services of a watchman. Provision also could be made to good advantage, if the theater workshop is to be included in a building used for other purposes, for this section to be heated individually.

Ideally, the theater workshop unit should provide the following: (a) a little theater seating somewhere close to 350 persons and certainly not over 500; (b) a workshop adjoining the stage, 30 by 50 ft. in size; (c) a scenery dock,

accessible from the stage or constructed as a part of the workshop; (d) a room 15 by 10 ft. for electrical storage which might or might not be a part of the shop; (e) a storage room for props, accessible to the stage; 20 by 20 ft. in size, with 250 ft. of shelving; (f) eight small make-up and dressing rooms accessible to the stage, 6 by 6 ft. in size, and one chorus dressing room, 15 by 20 ft. in size; (g) a costume storage room, 20 by 25 ft. in size equipped with racks and shelving; (h) a room for costume making, accessible to the costume storage room, which would be similar to a regular sewing room but which would be equipped with a washing machine and dyeing vats; (i) a design workshop, 20 by 20 ft., which might or might not be a part of the scenery workshop; (j) a small office, not over 10 by 10 ft., backstage but near the stage entrance, for the stage manager and technical director; (k) a business office 400 sq. ft. in size and readily accessible from the street; (l) a furniture storage room 25 by 25 ft.; (m) a lighting booth in the upper rear portion of the theater with sound equipment installed; (n) four or five small storage cupboards for paints, hardware, and miscellaneous items; (o) three regular classrooms; and (p) two rehearsal halls, each 50 by 50 ft.

The little theater itself should resemble a small theater rather than being a school auditorium; it should have excellent acoustics and be equipped with opera-type chairs. Much more important than the theater itself, however, is the stage and its companion rooms.

Minimum size of the stage is 30 ft. in depth and 50 ft. in width. It must be able to handle 16-ft. scenery and be equipped with a grid for flying scenery, the over-all height of the loft being at least 36 ft. above stage level. There should be a trough or slot at the rear of the stage so that scenery can be lowered in order that painting can be done at stage level. An adequate electrical panel and asbestos curtain must be provided.

Adjoining the stage and preferably situated as an extension of its length will be the shop. Conceivably, the shop could be backed up to the stage and curtained off from it by a cyclorama, but ideally it should be alongside and separated by a soundproof partition and door so that work can be done in it while shows are being produced on the stage. The workshop will be equipped with a minimum amount of power equipment and will have workbench space for handling large flats. The scenery dock for flats and the property and electrical storage rooms should open directly onto the workshop or, possibly, onto the stage itself. Both the scene dock and the workshop must be tall enough for 16-ft. flats to stand erect therein.

The dressing rooms must be equipped with mirrors and dressing tables and hooks for costumes and clothing. In case the theater workshop is located in a building where regular homemaking classes are conducted for adults, the laboratories provided for these classes can be utilized for costume making. Ideally, the costume storage room should adjoin whatever room is used for this purpose. Similarly, if design classes are maintained, the special design room for the theater could be eliminated. The furniture storage space could be located anywhere, even in another building, since it will be used for dead storage of furniture and props.

(Concluded on page 99)

*Co-ordinator of Adult Education, San Francisco, Calif.



The Antioch Junior High School, Antioch, California.—Kump & Falk, Architects, San Francisco, California. The interesting brick work in reds, purples, and browns provides an interesting color harmony with the original elementary school building on the same site.

New Type California Junior High School *Owen H. Barnhill*

One-story elementary schoolhouses with bilateral lighting, radiant heating, and outside corridors have become so popular in California since World War II that the best features are being embodied in two-story high schools. First of the latter to be built in the Golden State is an eight-room junior high school in Antioch, 35 miles northeast of Oakland, an industrial suburban town of 11,000 population at the confluence of the Sacramento and San Joaquin Rivers.

Unique and original features, designed to solve structural problems, make this building a spectacular example of modern school architecture. To protect the wide outside corridors from ocean breezes which sweep through Carquinez Straits, 25 miles northwest, utility rooms 14 ft. wide at either end of the building were extended 12 ft. south of the classroom section, the width of the corridors.

This added space also affords needed room for stairways. North of the east stairway are the boys' and girls' toilets, the latter on the second floor. Corresponding space at the west end of the building, on the upper floor, is occupied by hot-water equipment for radiant heating. The storage room below is being temporarily used for the principal's offices. His permanent quarters will be located in one of three additional units, of the same type, to be erected as soon as funds are available.

The Antioch board of education properly insisted that the upper outside corridor be made absolutely safe for students. This was accomplished by installing a 4-ft. steel and concrete fence at the outer edge of the balcony. The construction of this barrier is unusual. The posts are 2-in. steel pipes curved inward 6 in. at the top, where they are welded to a railing of the same size.

Inch-thick panels between the posts, 4 ft. apart, are composed of metal lath with cement plaster on both sides. They are 9 in. above the floor and 6 in. below the top rail, supported by two steel hangers welded to the posts on either side. The panels are painted a russet red, to harmonize with the building, forming a picturesque feature.

How to make the new reinforced concrete building, with structural steel frame, harmonize with two existing brick buildings on the north constituted a third problem. It was solved by placing red brick veneering on the north side of the main or classroom part of the building and all four walls of the end sections, inside and out. The total area thus decorated substantially was reduced by the north wall being mostly occupied by glass windows, also a large part of the east and west end walls of the building.



The simplicity of the classroom design is shown in this view looking toward the windows. The variations in the color of the brick forming the front wall of the room is an interesting contrast to the remainder of the interior finish.



The balcony corridor is amply protected by the roof overhang.

Unlike ordinary brick masonry, plaster seams extended continuously from bottom to top of walls, giving a more decorative effect. In future buildings of this type, the inside end walls of the classroom section will be covered with plywood veneer, as are now the partitions between the classrooms. The latter are built of wood, not reinforced concrete, hence their position easily can be changed, in case it is desired to make a room longer or shorter. Fir plywood, painted a very light shade of green, also covers the south walls, underneath the wide clerestory windows.

Still another problem solved was warming the air underneath the ceiling, next to the windows on both north and south sides of the classrooms, which spaces sometimes are cool in radiant-heated rooms. This was effected by installing hot water pipes in 3-ft. sections where the plastered roof soffits continue inside the ceiling, along the windows. Balance of the ceilings are covered with acoustical fiberboard.

Extra wide outside corridors, 12 ft., with roofs extending 2 ft. farther south, make it possible to install very large clerestory windows — 4 ft. square panes — underneath the high ceilings, without permitting direct sunshine to enter the classrooms. The roofs of both corridors slope upward and outward, permitting a maximum amount of light to enter the clerestory windows.

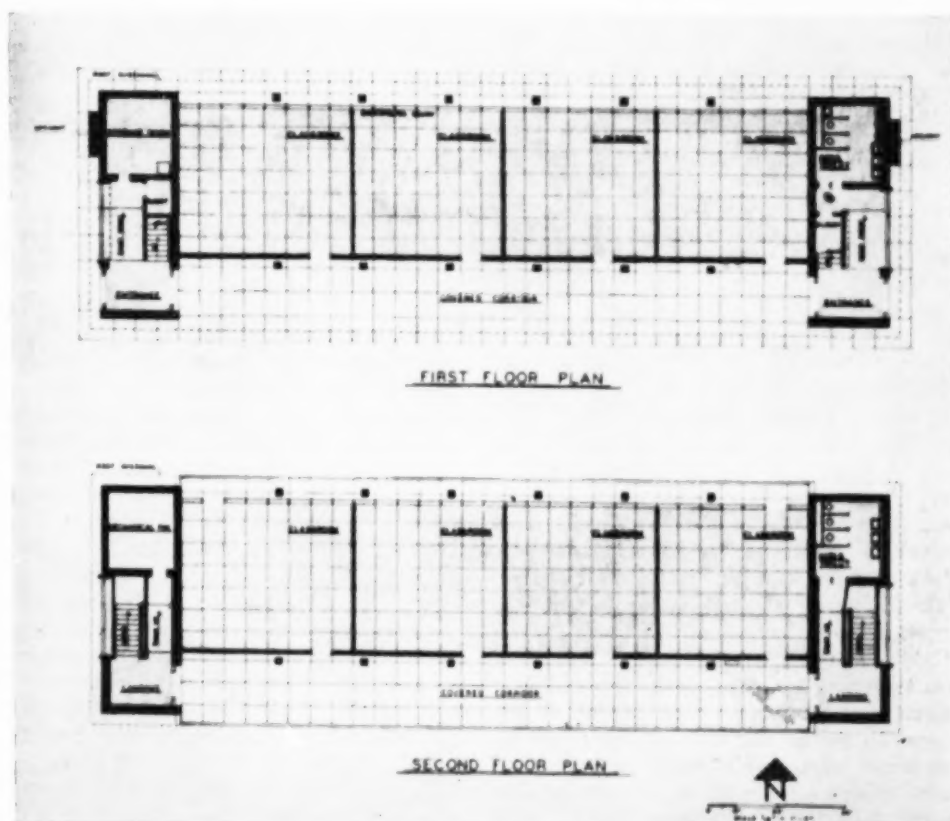
In connection with the two rows of north windows of the same size, opening outward, the result is approximately perfect bilateral lighting, very satisfactory to teachers and pupils. Practically no artificial light is needed during school hours. For use at other times, concentric-ring lighting fixtures are provided.

The handling of traffic between the upper and lower classrooms, also the lighting of stair wells, are two more problems success-

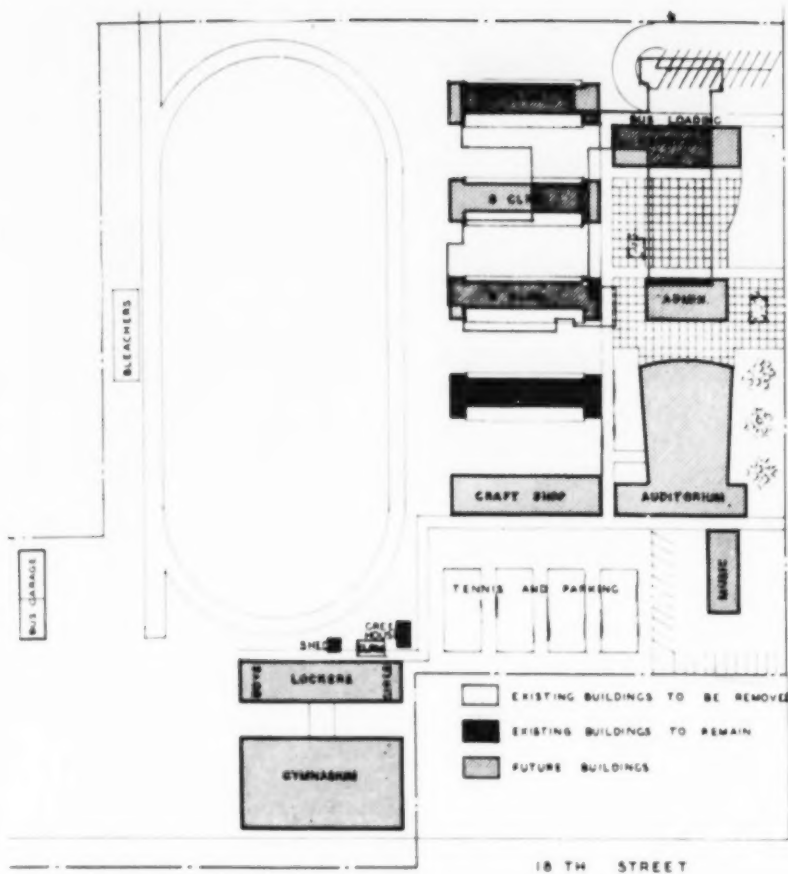
fully solved. Approximately 60 per cent of the concrete end sections, which are 40 ft. by 14 ft., was allotted to the stairways. There is a landing halfway to the second floor, where a walk protected by banisters leads to the room at the north end of this section. The outer side of the upper half of the stairway is 2 ft.

inside the large window, with banisters protecting both glass and students.

Unique and of striking appearance are the two huge windows, 12 ft. by 24 ft., at each end of the building. These extend from the ground floor almost to the second-story roof and are composed of a dozen 4 ft. by 5-ft.



Floor Plans of the Classroom Building, Antioch Junior High School, Antioch, California. — Kump & Falk, Architects, San Francisco, California.



The Plot Plan of the Antioch Junior High School shows the relation of the new classroom unit to the general service units which will be ultimately erected.



The balcony which forms the second floor corridor provides shelter from rain and sun for the first floor.

panes, affording plenty of light for the stairs inside. Through each immense window can be seen the decorative banisters with red plaster panels, similar in construction to the balcony fence. Instead of being confined to a dim stair well, the pupils have an extensive view of the outside scenery and sunshine, which improves student morale.

A special type of window glass, very tough, is used to guard against accidental breakage. This precaution was made necessary by the playground south of the building extending around each end of the structure, with no fence or other protective barrier between.

In order to avoid confusion when students pass from one floor to the other, most of the traffic moves in one direction—upstairs at the west end of the building, downstairs at the east end. This causes most of the traffic on the balcony to move from west to east and on the lower corridor in the opposite direction. While the outer double doors in the end sections open either way, those on the inside at the east open only outward, while those at the west end open inward.

Instead of the usual practice of building structural steel pillars into the wall, the pillars which support the south side of the classroom section are enclosed in six equidistant, 12 in. by 12 in., square concrete columns, placed 4 in. outside the wall. These extend from the foundation to the roof. Three-inch perpendicular hot-water pipes are placed

between the pillars and the wall, where they are easily accessible.

Because it was desired that the building be as inexpensive as possible, all cabinetwork, except shelves on the north wall was eliminated. The structure cost \$10.40 per square foot. In each room a pipe frame on casters is used to support coat hangers.

For showing motion pictures, no provision was made to install curtains to darken classrooms. Some educators prefer a new type of shadow pictures, which clearly can be seen in ordinary indoor light. It is claimed that students associate all moving pictures with those shown for entertainment in theaters, hence those exhibited in schools are likely to be viewed from this angle, rather than as educational material.

Some teachers prefer to place their desks on the north side of the classrooms in the new building, although this has the disadvantage of facing strong light from the clerestory windows. Chalk and tackboards and partitions are placed above fir plywood.

A structural steel stringer, enclosed in a cement-plaster box, extends through the north wall under the windows. Two shelves below afford space for books and other teaching materials. Drawing and poster paper are stored in a small, table-height cabinet with wide, shallow drawers.

The oiled and rolled playground south of the building was graded flush with the outside corridor, eliminating steps to stumble over. The insulated flat roof, covered with asphalt and white pebbles, makes the building a perfect rectangle in shape. Two-foot eaves give it proper balance.

A balcony on the north side, mainly ornamental, is only 2 ft. wide, with railing similar to that on the south balcony, but lower. A sidewalk underneath is flanked by a 10-ft. landscaped strip.

This new building, which was occupied in September, 1948, is the first of two units erected in the Antioch-Live Oak Unified School District's postwar expansion program. The other one is the Fremond Elementary School, occupied in January, 1949.

Another new elementary school building of 14 classrooms and administrative unit is being planned for early construction. A second junior high school building, like the one described, and a music building near by also are to be erected, but will not be completed until sometime during the 1950-51 school year.

These structures are being paid for out of the two \$500,000 bond issues and part of the proceeds of a special \$1 tax rate increase above the maximum. With these funds a 12-acre site for the elementary school already

(Concluded on page 96)



Fig. 1. The school gymnasium building, discussed by the author, is completely functional in plan and exterior design.

Some Economic Factors to Consider Before Building *David R. Graham**

A gymnasium for high school games with sufficient seating for paying spectators and a financial return is a rare asset to the small city school system. This is recognized in the present trend toward combined use of facilities where city park board and school system operate the gymnasium as a community center in addition to regular class activities. The expense of building a gymnasium can be more readily justified if it is usable by an entire community and especially if it is so planned that it can be constructed on a reasonable

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cost per square foot of area. It is the purpose of this article to present some construction features which experience has shown are most economical, as in planning a large-area building it must be understood that unit material costs have far more bearing on the final building cost than in the small building.

The building illustrated in Figures 1 and 2 was recently completed in a small city in the southeastern part of Oklahoma at a cost of \$40,000, or \$4.10 per square foot, as the building is 81 by 121 ft.¹

Other gymnasium buildings within a radius of a few hundred miles have cost \$8 and \$10 per square foot, and in each such case an exami-

nation will show the customary useless features such as high exterior walls, decorative masonry buttresses and unnecessary complications, all pointing to the absolute necessity of functional design and simple construction in a building of this size.² In this respect it should be pointed out that particular care must be exercised in following the recommendations of sales organizations promoting the use of various construction materials.

Welded Frame Construction

In planning such buildings experience points to the approach of the industrial plant designer who plans the building to fit the

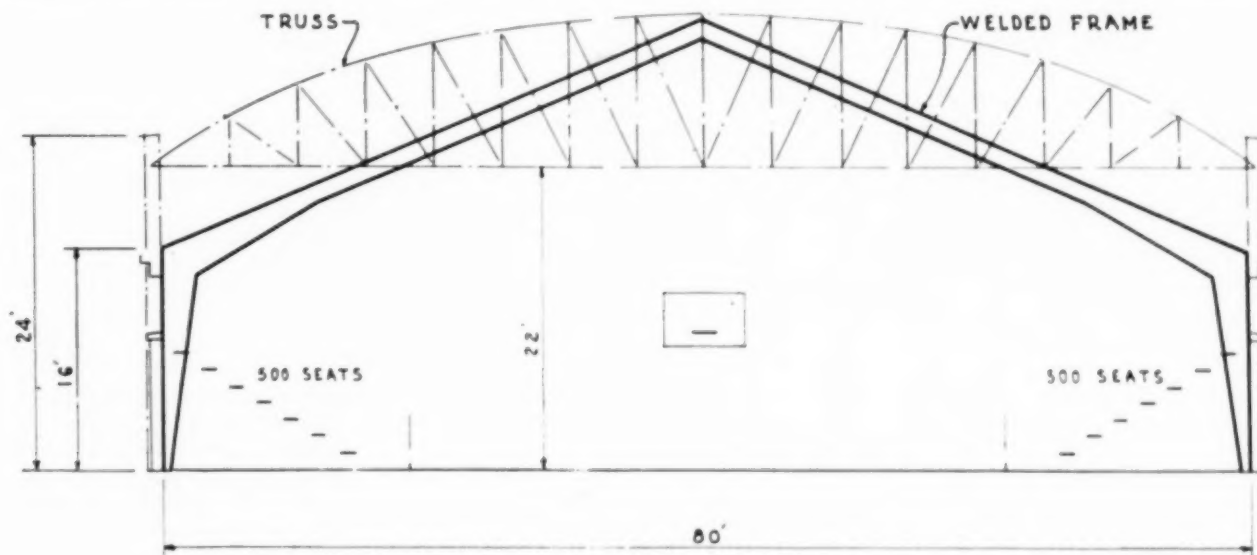


Fig. 3. Truss and welded steel arch frame construction comparison.



Fig. 2. Interior of the building in Fig. 1. The permanent seating capacity will be 900.

process, with nothing extra. In this respect the use of welded steel rigid frame construction provides the optimum in efficiency. One of the most expensive features in any building is the exterior wall area, and the gymnasium building with exterior walls 25 to 30 ft. high is very common. Figure 3 illustrates the wall height required with truss and column construction for standard basketball clearance as compared with the wall height of a building framed with welded steel arches planned to fit the heights required over the playing court and over the seating area. As the height at the wall is 6 to 8 ft. less than that required over the court, this represents a saving of that much wall height. For a building 120 by 80 ft. this can represent a saving of over \$6,000 at \$2 per square foot of wall area.

When planned by a competent engineer, experienced in that type construction, the cost of the welded steel arch should be about the same as that of a truss and column of the same span. It is to be noted, however, that many buildings have been built with these frames far heavier than necessary, in which case the extra weight of steel outweighs the saving made in the lower walls. The extra weight does not necessarily mean extra strength as it must be remembered that the strength of a structure is dependent upon the

connections as well as upon the dead weight of steel, and a structure properly designed according to the standard specifications of the

American Institute of Steel Construction has a great reserve of strength.³



Fig. 4. Interior, Elementary School Gymnasium with welded frame and flat roof. More expensive than the gable roof type but saves about four feet of wall height over truss construction. Note electrically operated folding doors.



Fig. 3-A. Gymnasium with welded frame under construction.

Wasteful Planning Causes High Costs

In many cases where all bids are rejected because appropriations have been exceeding, the cost is blamed on current material and labor levels, instead of the quantities of materials wasted in planning, and nowhere is this more apparent than in the steel structure of a building. In a recent analysis of building costs published by the American Society of Civil Engineers it was pointed out that the cost of masonry labor represented less than one per cent of the cost of an office building, whereas it has been shown that savings of 20 per cent in the tonnage of steel may be made by taking advantage of the rigidity of welded connections in the design of the structure, and it may be stated safely that

the cost of a building is dependent far more on planning than it is on current cost levels.

Forming the foundation of a building is an expensive item and this should be kept simple. The "grade beam" type of foundation is best. This consists of rectangular footings located under the end of each frame and laying over these around the building a beam extending 1½ or 2 ft. in the ground and up to the floor level. This beam is reinforced with steel top and bottom. This construction is not only more economical than the old continuous footing type, but is also much more dependable, as the deep beam will span any soft spots which may exist in the soil and the footing area is located under the load points, where it belongs. This construction

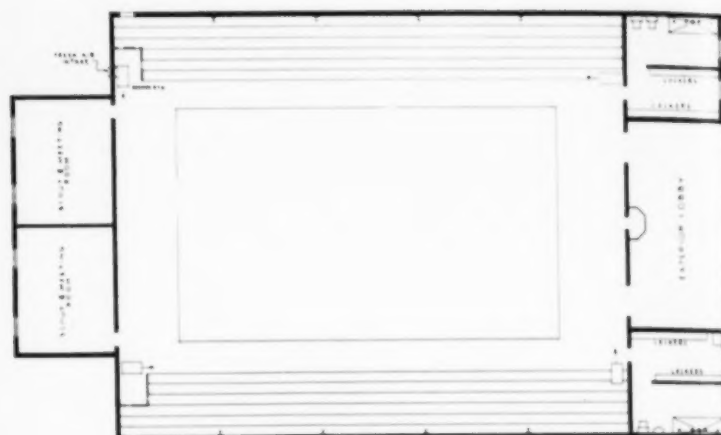


Fig. 4-A. Floor Plan of school gymnasium shown in Fig. 4.

has of recent years become standard for practically all buildings.

A very dependable arrangement of exterior side wall which is pleasing in appearance, consists of a solid wall to a sill at the top of the sidewall seats and a continuous row of windows above. This is not only advantageous from the lighting standpoint, but it is economical as it eliminates the necessity of fitting around the openings and the continuous sill is neat in appearance. The wall may be of any standard wall construction but is only a curtain wall, having no load to support, and hence needs only to be of the lightest masonry construction; or it may be of insulated metal panels made for the purpose. The distance from the floor to the roof edge of the 80 ft. wide building is 16 ft. With windows 4 ft. high this leaves a 12-ft. wall. The erection procedure is to place the steel frames first and then lay the masonry walls, fastening the walls to the frames at intervals with metal clips.

Arranging Construction Elements

Experience has always shown that a most important cost factor in any building is the arrangement of the various construction elements in order for each trade to work separately from the others; i.e., so that the structural steel may be bolted to the finished concrete work, the roof applied separately, and the masonry work placed without requiring the steel workers to fit their work to the masonry. In the rigid frame building this is best accomplished by placing a frame in each end of the building. In Figure 3 the gable ends were framed on top of the masonry walls. This caused delay and difficulty between the local masonry contractor and the structural contractor. Figure 3a shows the framing of a similar building with frames in each end. This simplified construction was satisfactory to an extent which far outweighed the cost of a small amount of extra steel; and, in general, this is the way it should be done. While in this case there is the question of using more steel to gain simple construction, it can be stated certainly that without exception simple, straightforward construction is the essence of good architecture, and this simplicity should never be sacrificed for the sake of embellishment or architectural arrangement.

It is common practice in gable roof gymnasium buildings to bring the masonry walls up into the gable ends. While this feature may be justified in certain buildings it re-



Fig. 5. Large University Field House with cantilever balcony support under construction.



Fig. 6. Gymnasium with welded roof construction and tile inner walls. The total floor measures 90 by 180 feet.

quires a great deal of expensive scaffolding for a small wall area, and it is much more economical to use a metal panel construction here, either backed up with rigid insulation or containing the insulation in the panels.

The roof of a gymnasium must be insulated. This may be accomplished by laying rigid insulation material over the metal decking before applying a built-up roof. The cost of this roof construction has proved to be only slightly higher than wood joists and decking.

Locating Dressing Rooms

It is common practice to locate the dressing and locker rooms under the seats. This results in much more expensive construction than when the building is made large enough for these rooms to be at one end or on one or both sides. There does not seem to be any reason to consider the space under the seats as being wasted when using it requires raising the height of the entire building several feet, or the still more expensive alternative of lowering the floor under that part of the building.²

There is an unaccountable trend toward plastering the inside of gymnasium buildings. Some of the most beautiful buildings in existence are steel framed buildings with the steel showing, and in fact the present trend is toward leaving the structure exposed for architectural as well as functional reasons. From the acoustical standpoint the slight amount of open steel work conforming to the roof line furnishes sufficient sound deadening in the welded arch frame building. At least

one music hall has been constructed recently in this manner.

The gymnasium and auditorium do not have enough common requirements to make a suitable combined purpose building, except possibly in the elementary school where the gymnasium is used for play purposes only. While a stage may conveniently be placed in one end of the gymnasium, there are objections to this system, and a building planned to meet the needs of both functions may not be good for either.³ The auditorium requires an entirely different type of heating plant from one suitable for the gymnasium. At present most schools make use of the auditorium for picture projection which is difficult in the gymnasium well lighted with natural light. Also, the present trend in auditorium use toward separated age groups eliminates the desirability of a size even approaching that of the smallest gymnasium. A well-finished and maintained gymnasium floor is strikingly beautiful, and the use of such a floor for movable seats should be discouraged except where it is absolutely necessary.

Heating and Ventilation

The heating plant of the gymnasium is a

IMPORTANT STATEMENT

A significant statement on the Relation of Architects and Educational Planning Experts by the A.I.A. Committee on School Buildings is published in full on pages 87 and 88.—
Editor

matter of regional requirements and available fuel, and any general plan is hardly possible. It has been found that a very effective system consists of four unit gas-fired heaters mounted one in each corner of the building and directed to cause a circular movement of air, with one unit drawing fresh air from outside.

Ventilation is very important and may be accomplished by the use of large attic-type fans mounted in each of the gable ends, or by more complicated systems incorporating duct work, which together with the heating are more subject to regional and other requirements than the structural features of the building.

Footnotes

¹This did not include the meeting rooms shown on floor plan at the rear of the building or the permanent seats which were set aside temporarily.

²See "37 Glaring Errors" in Athletic Institute "Guide for Planning Facilities."

³All buildings illustrated were planned strictly in accordance with the Design Specifications of the American Institute of Steel Construction.

CONSTRUCTION OUTLOOK FOR 1950

The Construction Division on the United States Department of Commerce forecasts an active year in 1950 for the building construction industry. While moderate recessions have been noted in costs and in construction during 1949, it is anticipated that the year 1950 will see a total outlay for all building activities of 19,250 million dollars.

The Department of Commerce predicts that the total cost of additional building construction will be 900 million dollars in 1950 as against 840 million dollars in 1949—an increase of 7 per cent.

Armistead Gardens Elementary School Baltimore, Maryland

John W. Lewis and William E. Lehr***

Architects—Finney, Wolcott and Associates

As an exception to its usual policy of using multi-story construction for its larger buildings, Baltimore is planning one large elementary school of a one-story type. Usually, land costs in the larger cities result in multi-story construction for schools larger than 16 or 20 classrooms. However, in order to test the possible educational advantages which a one-story building might offer, and also as a means of developing comparative costs of construction, maintenance, and operation, of one-story vs. multi-story buildings, it was deemed wise to build at least one large one-story elementary school. Since the school is designed also to develop comparative cost data for varying features in the four wings, it should provide information helpful in the determination of policy for other buildings in Baltimore's present \$34,000,000 building program.

Another consideration leading to one-story construction was that part of the housing development in which the building is located is of such a character as to cast some doubt on the life of some of the housing units. If part of these dwellings were to be abandoned after 25 or 30 years, progressive abandonment or nonuse of part of the building, such as one wing, could be effected more easily than with a multi-story type.

*Assistant Superintendent.

**Director of School Facilities.

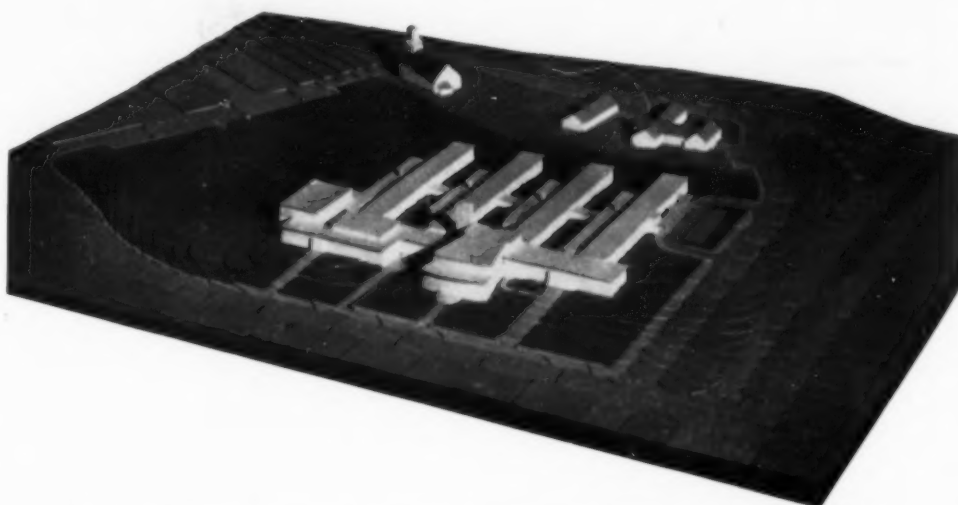


Fig. 1. Model of Armistead Gardens Elementary School, Baltimore, Maryland.—Finney, Wolcott and Associates, Architects, Baltimore. Dark area defines site. Community Church and Housing Authority administration buildings in background.

Finger Type Layout

The building is designed in what is usually characterized as a "finger" or a "comb" type, with four wings of practically equal size. See Figure 1. The wings are connected at one end (or the back of the comb) by a corridor serving the administrative suite, library, auditorium, cafeteria, and gymnasium. Additional ease of circulation is provided by a

second corridor connecting the wings. See Figure 2. In adapting the building to a sloping site, there is a difference of 4 ft. in floor elevation between each wing, this difference being taken up by ramps in these transverse corridors.

Classrooms have bilateral lighting, achieved by dropping the height of the corridor and service and auxiliary rooms opposite the class-



Fig. 3. Typical area between classroom units showing play space and relationship of corridor, service, and auxiliary rooms to classrooms.

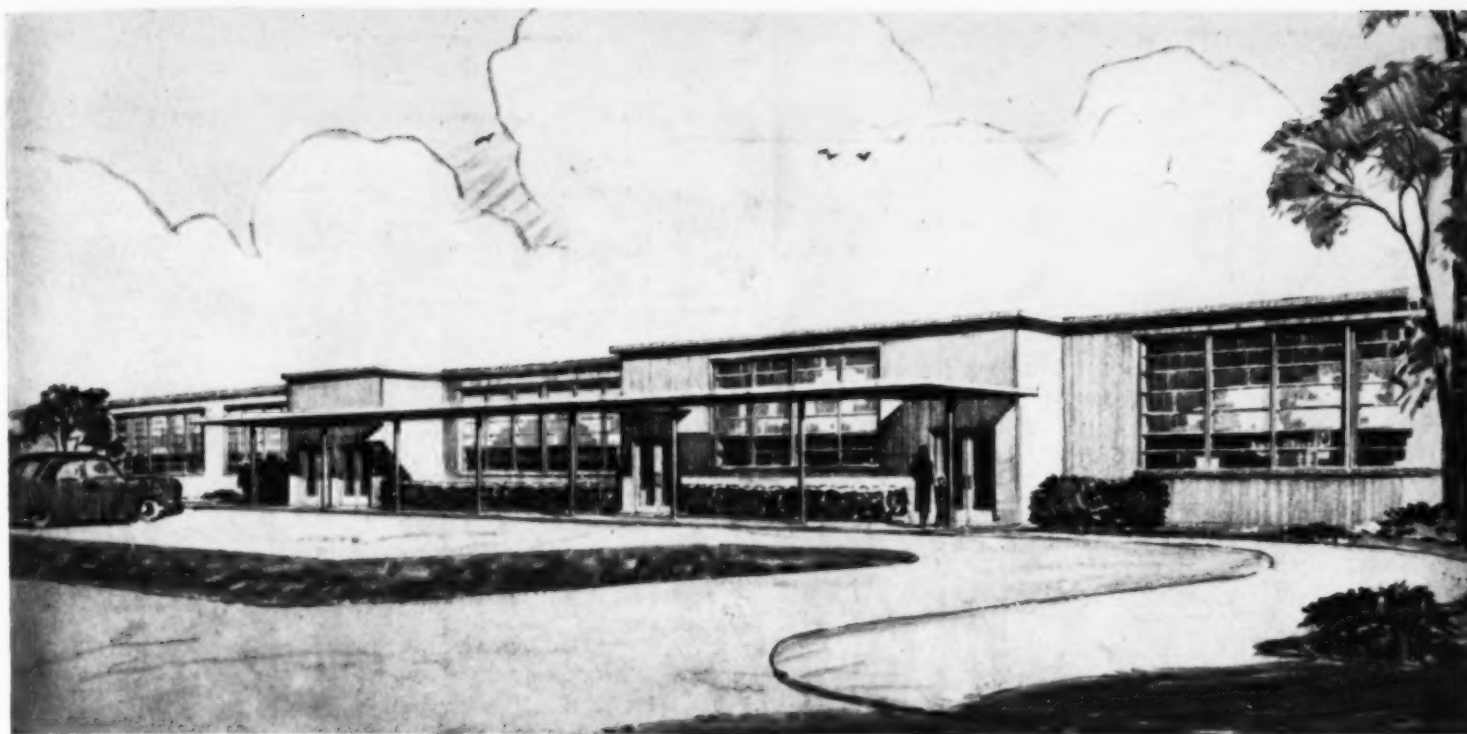


Fig. 4. View of approach to kindergartens and lower grade wing.

rooms to 8 ft., with clerestory windows above, as illustrated by Figure 3. Wing No. 3 will have directional glass block (with vision strip) for a comparison with the others using clear glass.

Artificial lighting is designed to provide approximately 25 foot-candles (maintained). Incandescent lighting, using concentric ring type fixtures, will be used in Wings Nos. 1 and No. 4. Slim-line fluorescent fixtures with 45-degree shielding (425 milliamperes T-12 lamps) will be used in wings No. 2 and No. 3. These variations between wings will permit interesting observations and comparisons.

Variations in Heating

Similar variations are provided in heating. Wing No. 1, housing the kindergarten and lower grades, will have radiant heat panels in the floor, with tempered air supplied by unit ventilators. Wings No. 2 and No. 3 will be equipped with unit ventilators. Wing No. 4 will be heated by wall fin radiation arranged under the windows and fed from a monoflow loop. Unit ventilators will be used in the gymnasium, cafeteria, auditorium, and library.

Heating is to be performed by means of forced feed hot water, made up of five com-

plete systems. Each of the four wings will have a steel tubular boiler using No. 5 oil. The fifth system, heating the auditorium, gymnasium, cafeteria, library, administrative section, etc., consists of two stoker-fired steel boilers, each of a capacity to carry two thirds of the system load plus the load of one classroom wing (each classroom wing being cross connected to the main of this system). Space is provided for a future third boiler, which, together with boilers 1 and 2 will carry the load of the entire school should an emergency arise making oil unavailable.

Another interesting feature of the building



Fig. 5. View of approach to auditorium and administrative offices of Armistead Gardens Elementary School, Baltimore, Maryland. — Finney, Wolcott and Associates, Architects, Baltimore, Maryland.

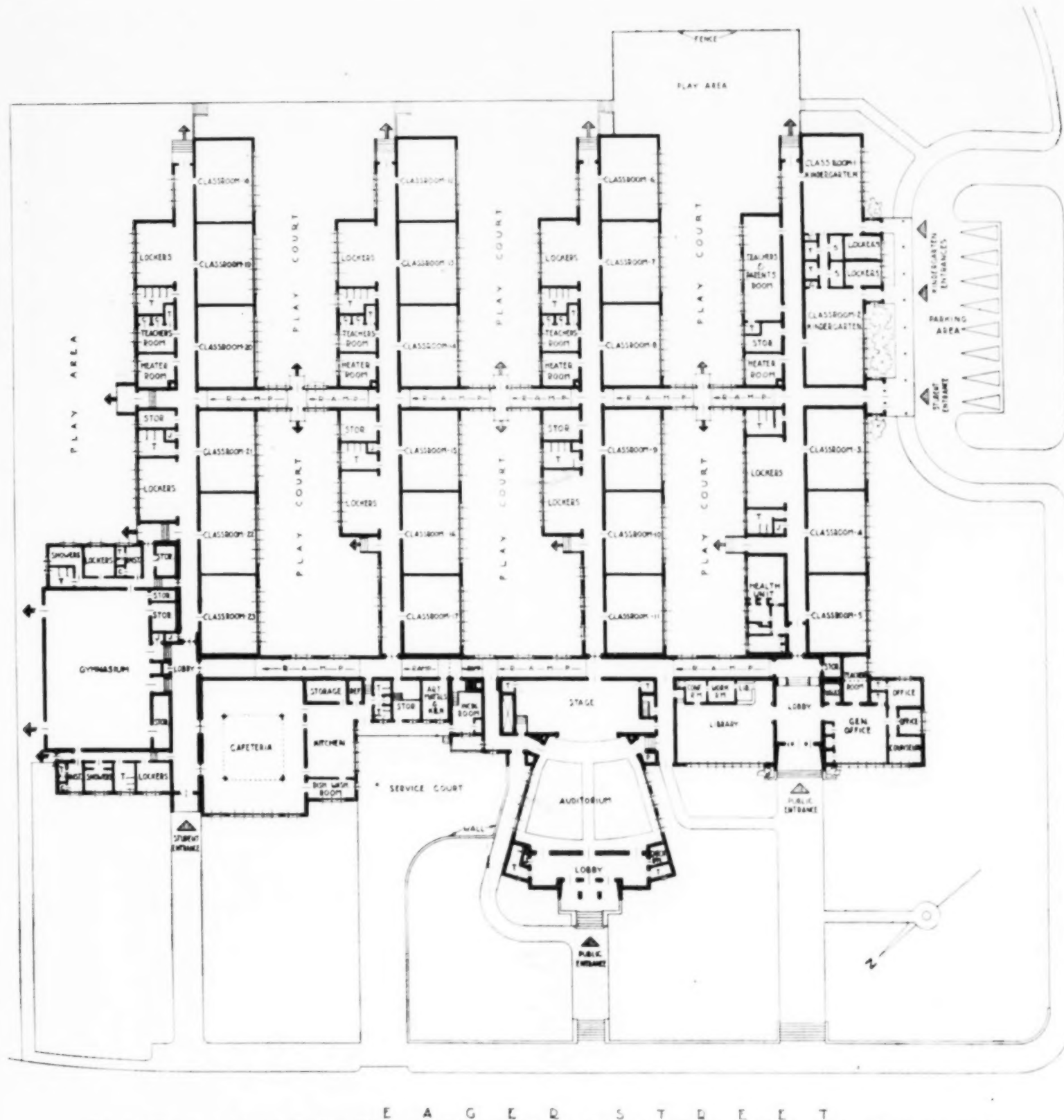


Fig. 2. Plan of Armistead Gardens Elementary School, Baltimore, Maryland, indicating facilities and functional relationships.

will be the use of water curtains instead of Class A fire doors, at points where the local building code requires separation for fire protection. The use of fire doors would restrict the effective use of exits, while the water curtain would permit egress.

Community Uses Planned

The building is designed for efficient com-

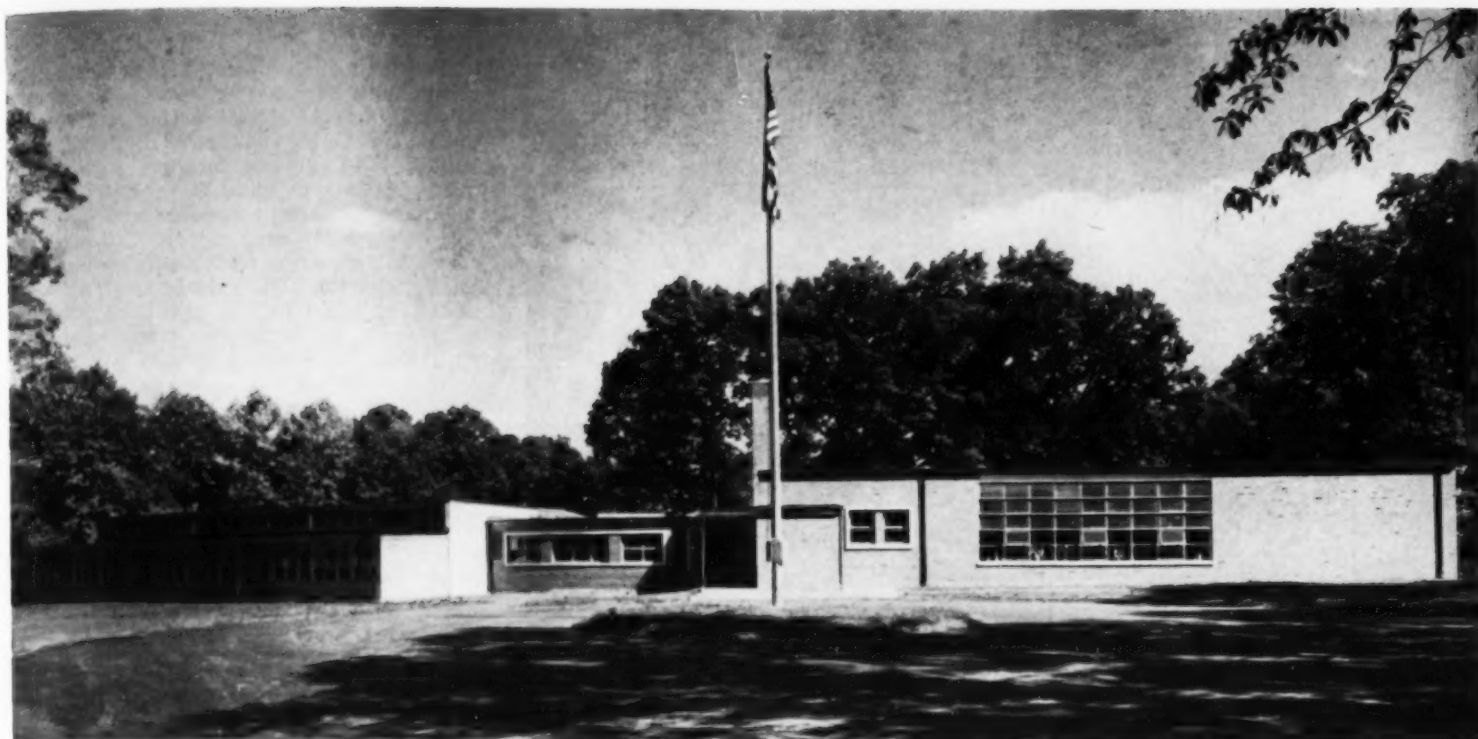
munity use since most of the facilities used by the community are located along the end corridor. Collapsible gates make possible the zoning of the building. This zoning is very flexible, giving access only to the part or the parts of the building that are in use. For example, when the playground is in use outside of school hours, the recreation leader may be given a key which will grant access only to

toilets and a small storage area, eliminating the need for custodial service to protect the rest of the building.

Classrooms are 25 by 35 ft. 6 in., and are equipped with a sink, adequate built-in storage cabinets, shelves, and other facilities for a modern program.

The site comprises 8.12 acres and will be

(Concluded on page 96)



The West Front of the Forest Grove Elementary School, Silver Spring, Montgomery County, Maryland. — Ronald S. Senseman, A.I.A., Architect, Takoma Park, Washington, D. C.

Planned for Expansion —

An Elementary-Community School

Ronald S. Senseman, A.I.A., Architect

The new Forest Grove School in Silver Spring, Md., is the outcome of planning for community and elementary educational service by Dr. Edwin W. Broome, superintendent of the Montgomery County schools, and architectural planning by Architect Ronald Senseman, A.I.A., of Washington. The building cares for the needs of a Washington suburban community and the surrounding rural area which are growing at an amazing rate. Economic conditions and population changes made it necessary to provide a maximum of classroom space at an absolute minimum cost.

The site which is adjacent to a public park is typical rolling Maryland country with practically no level ground. It presented numerous problems in the location and arrangement of the building, so that the maximum use could be had of the play area. The ground slopes rapidly from a knoll on the south of the building, making it necessary to swing one wing back to assure drainage and avoid excessive excavation. The change in slope is further handled by a ramp to the north wing which parallels the street.

The approach to the school from the street is limited by the contour of the ground. Because of this fact the service circle and the building are designed so that all services are reached by the circle. The main entrance is protected by a covered walk and ties in with the service area of the kitchen with a



Interior of a typical classroom, Forest Grove Elementary School, showing the arrangement of the clerestory windows, lighting fixtures, and package unit ventilators.

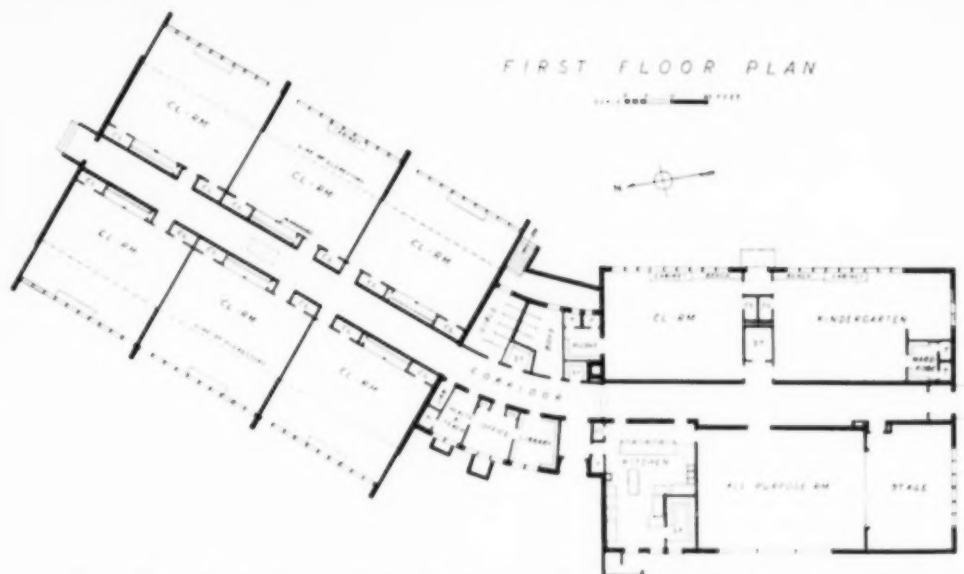


Rear East View of the Forest Grove Elementary School as seen from the playground which is to be developed.

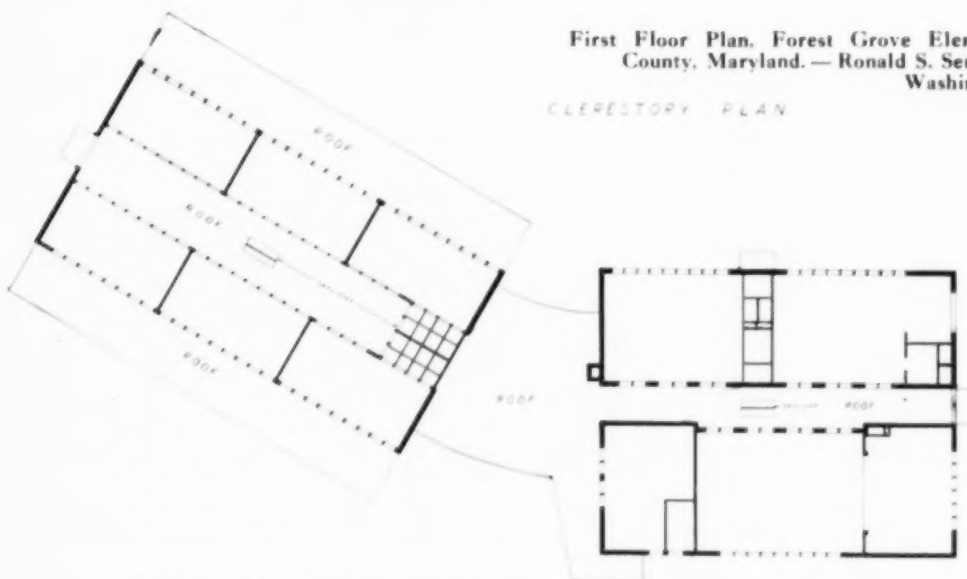
minimum of unsightliness and a maximum of efficiency. The coal chute and the ash removal hoist to the basement immediately under the central section of the building are also serviced from the circle.

The building is divided into two sections, the primary wing to the south and elementary wing to the north, a semicircular midsection providing an advantageous location for the entrance, office, library, and health rooms and toilet facilities for the elementary rooms. The primary wing has individual toilets for each room.

The all-purpose room and its stage area are separated by folding doors designed so that the present, temporary critical classrooms shortage in Silver Spring can be eased by the use of both areas for classrooms and still maintain these facilities for their intended use.



First Floor Plan, Forest Grove Elementary School, Silver Spring, Montgomery County, Maryland. — Ronald S. Senseman, A.I.A., Architect, Takoma Park, Washington, D. C.



This plan makes clear the double clerestory windows which provide light for the interior classroom areas.

The Classrooms

The typical classroom is larger than the conventional normal schoolroom and is nearly square. This wider room necessitates supplemental lighting in addition to the usual fenestration. The problem has been met by trilateral lighting provided by a monitor type roof with clerestory windows in both sides. The side wall windows as well as the clerestory windows run the full length of the classrooms. One third of the room ceiling adjacent to the side wall windows is 9 ft. 6 in. high; the monitor area is 15 ft. high. The trilateral lighting gives almost perfect uniformity of light-value curves at the desk level.

The classrooms generally face east or west, and ribbed glass has been used, combined with a wide overhung roof, to cut down the sky glare. For vision clear glass has been placed in the lower section of the sash.

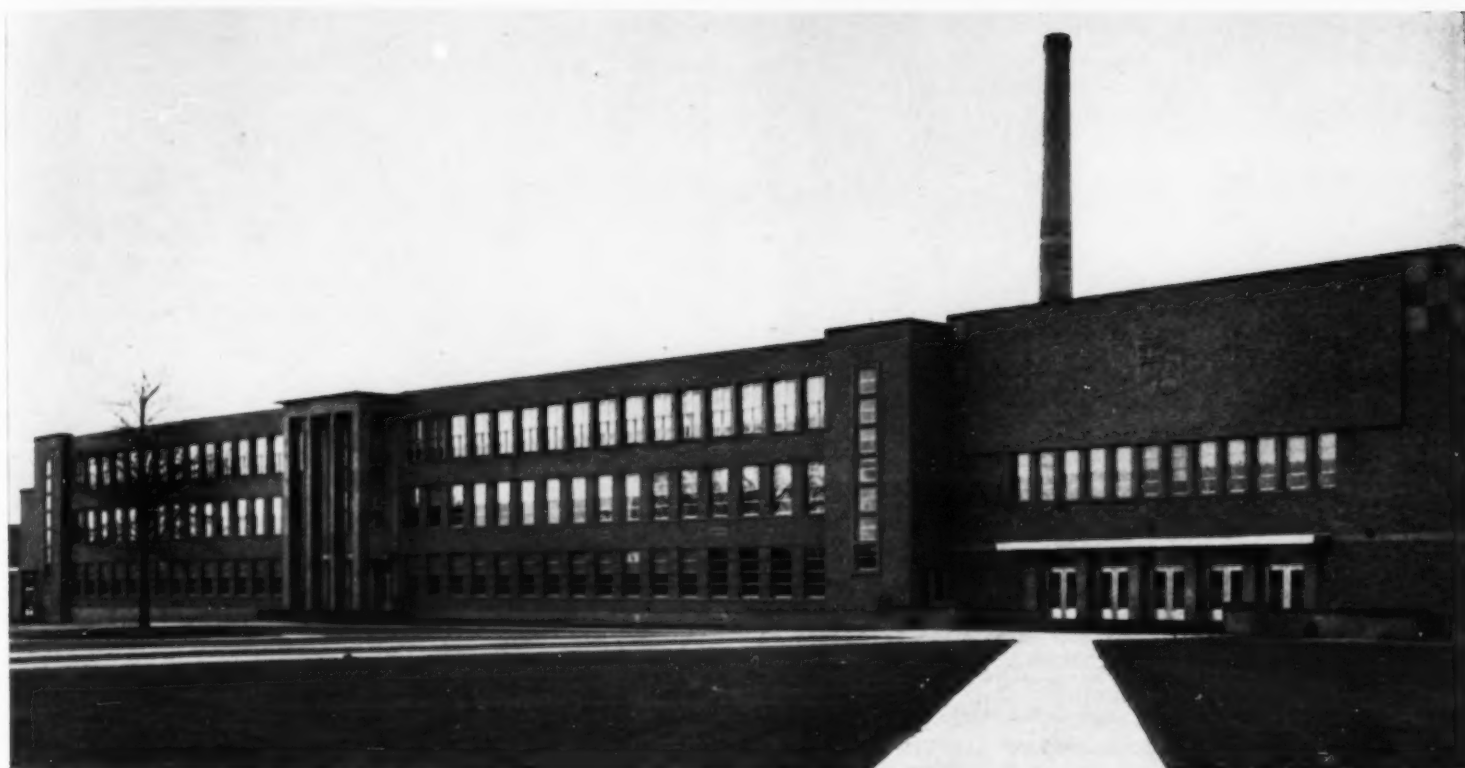
The classrooms have cinder block walls painted in soft pastel shades. Each room has a wardrobe and built-in closets as well as a sink and bubbler. All rooms have direct outside access protected by the roof overhang. Ample slate chalk boards and cork mounting boards are included in each room.

The exterior walls are sand-finish rose brick trimmed with Indiana limestone and backed up with exposed cinder block. The structure is wall bearing construction; on the south end the roof is bar joist construction. The central section over the basement is precast concrete. The north wing has wood construction in the monitor area.

The sash are awning-type wood with a hopper on the bottom sash. The ceilings throughout are acoustical tile and the concrete floor slab is on a gravel fill with asphalt-tile floor covering.

The building is heated with floor-panel type radiant heat, with gravity ventilation. The monitor type clerestory sash make possible positive ventilation from the hopper-type windows across the classrooms and out of the clerestory without creating a draft condition. There is also gravity ventilation for

(Concluded on page 94)



Euclid Senior High School, Euclid, Ohio.—Harry Fulton, R. B. Dela Motte and Ben Krinsky, Associate Architects, Cleveland, Ohio. The building, which is completely functional in design, takes on interest from the splendid vari-colored brick work with tile and Bedford stone trim.

“The High School That Has Everything” Opens Its Doors at Euclid, Ohio

William R. Murphy

When Superintendent Russell H. Erwine came to Euclid, Ohio, in August, 1939, he was fully conscious of the need for and the problems involved in planning and erecting a new high school building. Two years previously Mr. Erwine had been instrumental in the issuance of \$1,000,000 bonds at Steubenville, Ohio, and had seen the construction of the high school in that city progress to the point that it was 48 per cent completed. It was natural, therefore, that he should feel that the two Euclid high schools should be consolidated in one building. It took years, however, for him to get sufficient support to get his plans in operation.

In 1940, the school board and the Euclid city council bought a tract of 110 acres, near the geographical center of the city. The board of education took over 45 acres, while the city of Euclid took 65 acres for recreational purposes—general play areas, a swimming pool, a fly casting pool, baseball fields, and tennis courts.

Mr. Erwine did not attempt to do all the planning himself. He appointed numerous committees from the executive staff of the school system and the teaching corps of both high schools to study the question from a broad educational viewpoint. Numerous conferences were held, and public meetings of the school



The library has a green and pink color scheme for floor, wall, and ceiling. The seating capacity is 600 and the shelving is ample for meeting North Central standards.



The auditorium is the showroom of the building. It has 1722 seats of the latest automatic rising type. The walls are pale yellow and the ceiling is buff. The indirect lighting provides for a daylight effect.

board and interested civic groups were called, so that in time opinion began to crystallize into action.

Architectural plans were actually initiated

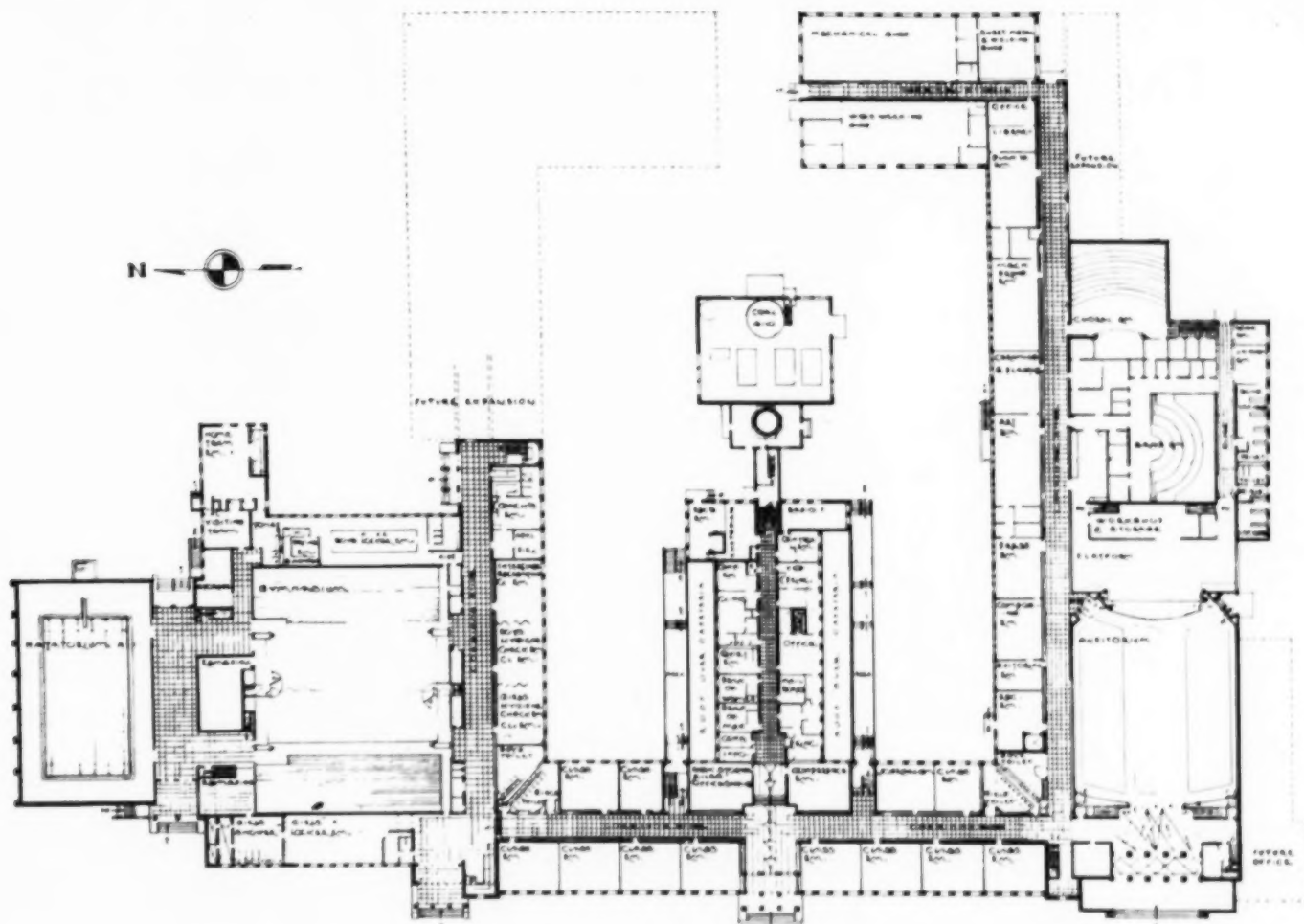
in 1943, and in September, 1949, the Euclid Senior High School opened its doors after ten years of planning and concerted action.

There were many reasons why the two high

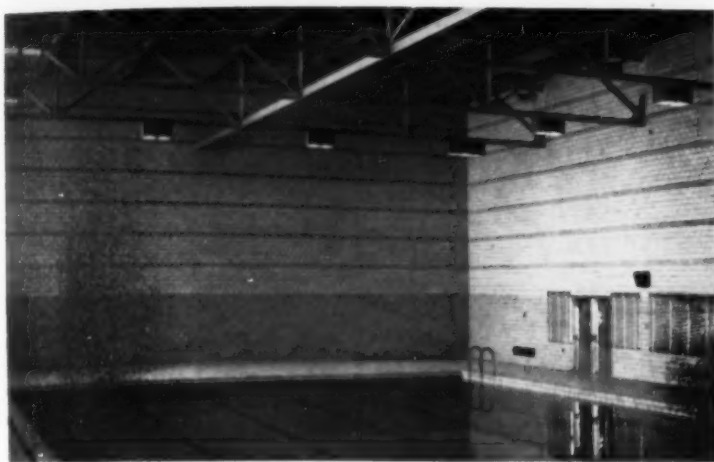
schools should be combined. The main reason was that both schools badly needed shop space and equipment, more service rooms, and more academic classrooms. Neither building could be economically or educationally expanded. At the same time the large industrial plants which had moved into the large open spaces in Euclid offered excellent occupational opportunities for young people who were mechanically inclined and who had had at least rudimentary contacts with industrial subjects. Also these same industries were paying large taxes, and the financial situation was opportune for action.

Mr. Erwine first convinced the school board of the necessity for common action. His proposal was to turn the two high school buildings into junior high school and elementary school buildings, and to construct a large metropolitan senior high school which would meet the needs of the community for years to come.

Euclid was growing at a tremendous pace. The school population in 1940 was 3167, in 1949 it is 6438, an increase of 103 per cent. The city itself was and still is bursting at the seams. More industries are moving to Euclid. Houses are going up by the hundreds. It is one of the fastest growing suburban cities in the United States. From 35,000 population in 1940, it may reach 80,000 ten years hence. Plans have been laid for ten years ahead, not only by the board of education, but also by the city administration of Euclid.



First Floor Plan, Euclid Senior High School, Euclid, Ohio. — Harry Fulton, R. B. Dela Motte and Ben Krinsky, Associate Architects, Cleveland, Ohio.



(Above) A corner of the swimming pool.



(Right) A corner of the choral room which has adjoining it a broadcasting booth from which concerts can be broadcast.

Masonry, Walls, and Colors

The new Euclid Senior High School, recently completed at a cost of approximately \$4,000,000, is an E-shaped structure of reinforced concrete, the exterior of varicolored brick, Metropolitan yellowstone, with a few red and orange colored stones, giving a buff effect. Steel trusses and columns were necessary in the erection of the gymnasium and auditorium.

There are four wings or units: the main building, with the cafeteria, general offices, library, and classrooms; the auditorium; the gymnasium; and the swimming pool building.

The masonry of the building, consisting of brick and tile, is equivalent to 2,000,000 bricks. There are 300,000 glazed tile units in the building. All stair wells and halls have 5 by 8-in. ceramic tile; also in the toilets, in the boys' and girls' locker rooms, and shower rooms, machine shop and woodworking shop, there is clear glazed tile.

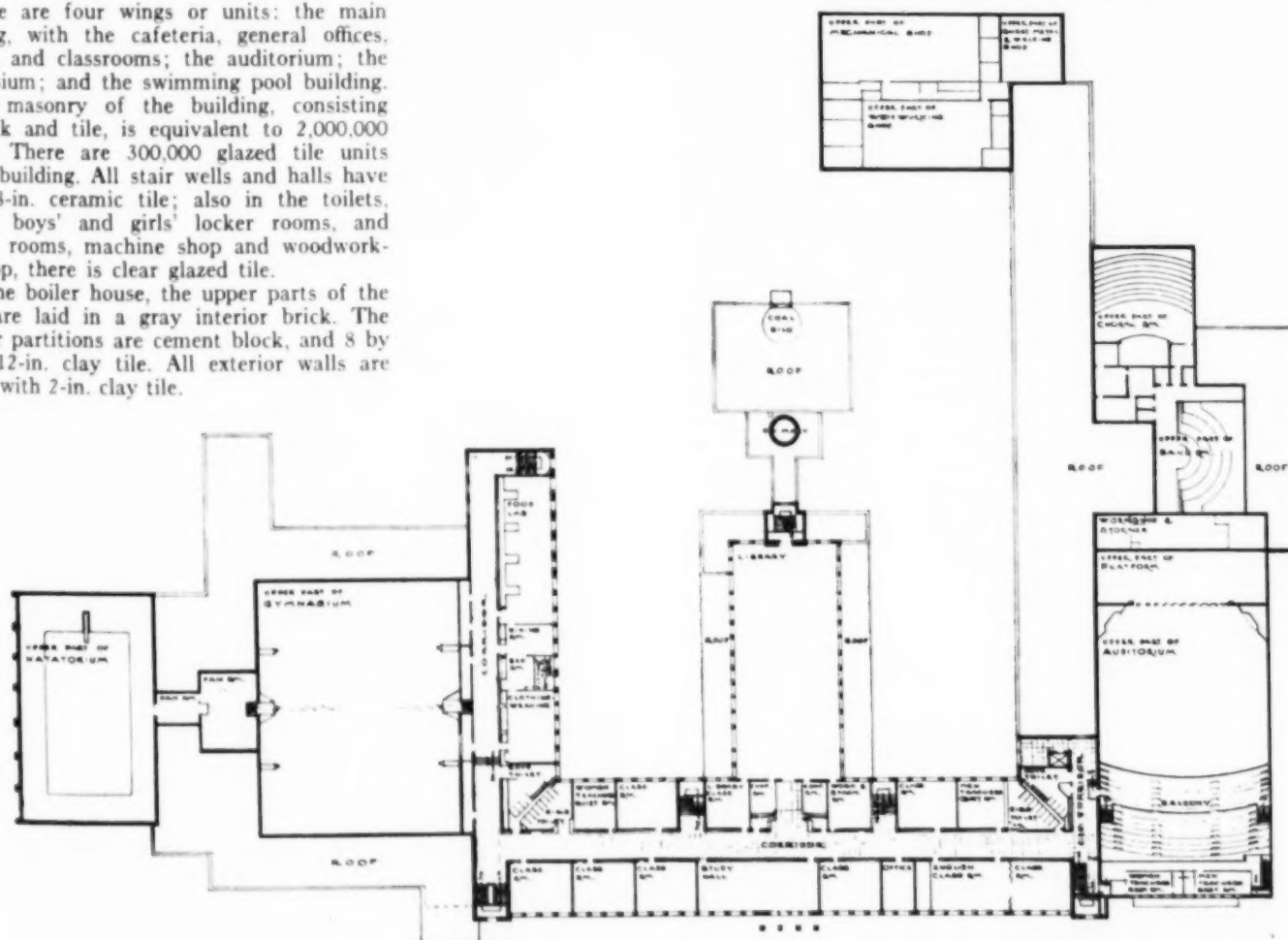
In the boiler house, the upper parts of the walls are laid in a gray interior brick. The interior partitions are cement block, and 8 by 8 by 12-in. clay tile. All exterior walls are furred with 2-in. clay tile.

All interior walls which are not tiled, are color sanded plaster, rather than painted. The color scheme changes with each floor. It was worked out by a color psychologist and consultant. Also the different classrooms have different color schemes, to suit the age of the pupils and to harmonize with other environmental factors. The wall colors are green, rose, yellow, and light blue, depending on aspects of the rooms.

Building and Grounds

The front of the building facing East 222nd Street, is 606 ft. wide. The deepest wing is 490 ft. The building has 185,000 sq. ft. of floor space. The cubic content is 3,831,000 cu. ft., and the cost of the building alone, without any equipment, was 84 cents per cubic foot.

Behind the building is a parking lot for



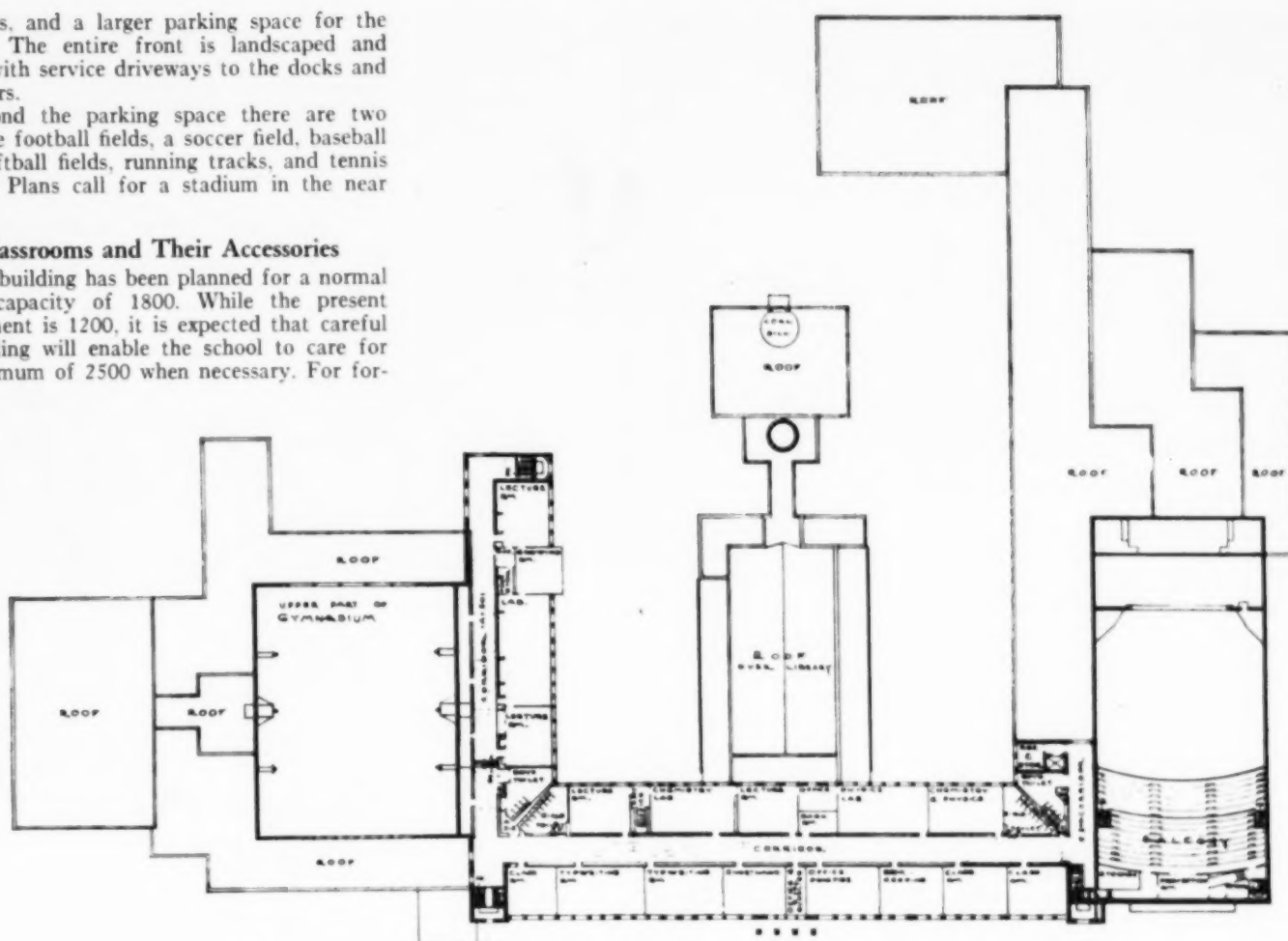
Second Floor Plan, Euclid Senior High School, Euclid, Ohio. — Harry Fulton, R. B. Dela Motte and Ben Krinsky, Associate Architects, Cleveland, Ohio.

teachers, and a larger parking space for the public. The entire front is landscaped and level, with service driveways to the docks and elevators.

Beyond the parking space there are two practice football fields, a soccer field, baseball and softball fields, running tracks, and tennis courts. Plans call for a stadium in the near future.

Classrooms and Their Accessories

The building has been planned for a normal pupil capacity of 1800. While the present enrollment is 1200, it is expected that careful scheduling will enable the school to care for a maximum of 2500 when necessary. For for-



Third Floor Plan, Euclid Senior High School, Euclid, Ohio. — Harry Fulton, R. B. Dela Motte and Ben Krinsky, Associate Architects, Cleveland, Ohio.

mal instruction the building has 45 general classrooms and laboratories, three large multi-use shops, a music suite with separate choral and band rooms and 14 practice rooms, five industrial-arts shops, three rooms for remedial physical education. The foregoing are supplemented by the library, the auditorium and its accessory rooms, the gymnasium with its dressing and shower rooms, and the swimming pool.

Two of the English classrooms and the two recreation rooms are separated by rolling partitions which may be drawn back into wall recesses when large groups are to be accommodated for dramatics, student organization meetings, dances, games, or other group activities.

The classrooms, shops, and laboratories have been especially equipped with built-in storage cases, bookcases, and other permanent furniture needed for academic, science, and other studies. Storage and workrooms, preparation rooms, darkrooms, conference rooms, and special teachers rooms are features of the academic areas of the building.

The lockers for the storage of pupil's clothing, work in process, gymnasium uniforms, etc., are mostly handled in the classrooms, corridors, and special alcoves. In all cases the lockers are durable steel, finished to harmonize with the floor and wall coloring, fitted with rubber bumpers for quiet control, and supplied with chrome plated nontampering handles. Classroom lockers and wardrobes have teacher operated group-control locks.

Ventilation is provided by louvers in the doors, perforated shelves and bases, and positive flue exhausts.

Auditorium

The auditorium which occupies an entire wing has been designed as the show spot of the building which will be most frequently seen by parents and the general public. It is in reality a large theater seating 1762 persons and fitted with a complete stage and with accessory rooms for handling scenery and stage props, dressing rooms, etc. The main auditorium has a cement floor which is carpeted in the aisles, the walls are plastered and the ceiling and wall panels are of acoustical materials. The room has daylight lighting effects by the indirect lighting which is carefully concealed and reflected from the pale yellow walls.

The stage has a complete system of lighting, controlled from a main panel from which also the brightness of lighting in the main room can be raised and dimmed.

The orchestra pit is ample for a full-size symphony orchestra. It is accessible by tunnels under the stage which also lead to the lower level of dressing rooms.

At present the stage is fitted with a front curtain of heavy dark red damask, a middle curtain of a neutral gray, and an extreme rear curtain which conceals the brick back wall.

To a certain extent the acoustics of the room are controlled by the seating which is of the body-form type and contoured to follow the lines of the human body. If an occupant rises, the seat raises three fourths of the way and gentle pressure pushes it back all the way. The feet are all turned to prevent stumbling. Both seats and backs are fully upholstered in such a manner

that all upholstery may be removed in a few minutes for recovering any individual seat or back.

The Gymnasium

The gymnasium occupies 11,515 sq. ft. of floor space in a separate wing. Four basketball games may be in progress at one time. Three rooms are set aside also for remedial physical education.

A complete ventilating system insures fresh, clean air at all times. There are 2250 spectators' seats, which fold back to the wall like an accordion. The floor is No. 1 maple, placed on 2 by 8-in. sleepers on tar rock, a composition of sand and asphalt, which produces a "floating" floor.

The folding partitions which bisect the gymnasium floor are automatically operated. They operate on hangers which roll on an overhead track, and fold into recesses to occupy no floor space. Each of the 32 doors weigh 500 pounds each, about eight tons altogether, but the precision ball-bearing parts operate practically without audible sound. This type of partition eliminates all manual operation.

The telescopic gymnasium seats are so balanced that the custodian and two aides can pull them into place to seat 2000 persons in ten minutes. When the crowd is gone the seats can be as quickly folded against the wall. Each section has 16 rows and there are six sections on each wall. Behind the screen, well up on the south wall, are two sections reserved for the press.

On the upper north wall of the gymnasium there is an outlet for warm air, and down near the floor there is an intake for fresh air. Even when the fans are not in operation there is a constant circulation of air.

(Continued on page 82)

Movable Schoolroom May Solve West's Big School Headache

Arthur W. Priaulx

A movable schoolroom which can be built and completely outfitted for \$7,000 and which combines all of the conveniences and charm of the most modern classroom may well solve the massive headache which today plagues many school boards in the West.

Designed by Ernest T. Mock and Nelson J. Morrison, architects for Tacoma, Wash., school board, the compact, durable, inexpensive stopgap portable schoolroom can be built in a matter of weeks and provides teaching space at once at low cost while more expensive permanent facilities are being constructed.

Tacoma is typical of western communities, with an estimated population today of 200,000 people compared to 110,000 in 1940. Even though the Tacoma school district has completed or under construction some \$3,444,000 worth of permanent buildings and additions to older plants, it still lags far behind the demand created by this unprecedented expansion of its population. Someday school officials hope to catch up with the pressing need for more schools. They have an additional \$4,000,000 worth of buildings planned and on the architect's drafting boards. But their problem is a current one, like that of most western communities. What to do with the children who need schooling today?

Most California, Oregon, and Washington school plants are bulging and overflowing with nearly two million students, the end product of one of the greatest mass migrations

in history. Since 1940 these three Pacific Coast states have gained five million population, nearly 50 per cent increase in less than ten years.

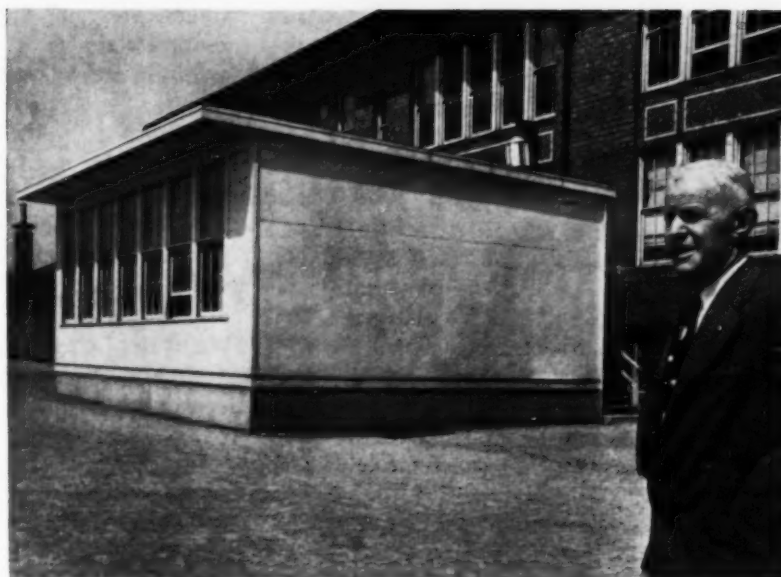
All over the West it is the same. In the 11 far western states the average gain in population since 1940 has been 31 per cent. School plants are crowded beyond belief and two-shift teaching to make double use of schoolrooms has been necessary in some districts.

Architects Mock and Morrison couldn't provide new buildings fast enough to meet the immediate, pressing demands, even if the school district had been able to finance the program. War babies were coming of school age and newcomers' children added to the load.

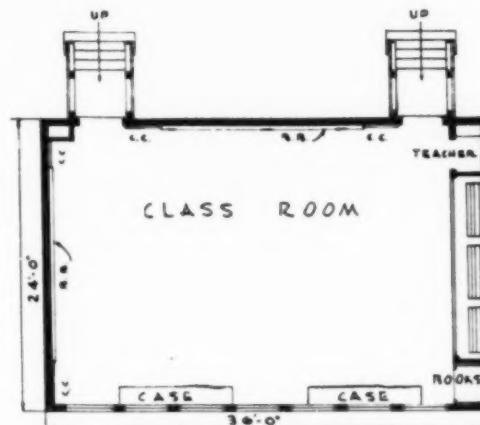
Their problem resolved itself into designing the least expensive type of structure that would do the job in a stopgap capacity and yet avoid any shack-town, flimsy, unsafe buildings that could become an eyesore in a year or two.

Six new schoolrooms were needed in various parts of the city at once to augment existing buildings. School authorities wanted single rooms designed so they could be moved readily without damage for they found that overcrowded conditions changed from year to year as new subdivisions were opened and residential areas built up.

Mock and Morrison created their basic design on the theory that the room should combine the most modern improvements in lighting, student and teacher comfort, acoustics, adequate blackboard and bulletin



The movable classroom has a clean, business-like appearance. Principal Roy E. Cruver of Franklin Grade School says new classroom has solved their problems of crowding.



Floor plan of Tacoma portable classroom demonstrates modern facilities combined in unique and compact structure.

space, and should be properly heated. Even though portable and in theory only temporary, the architects decided that movable rooms should be decorated as tastefully and with as much attention to beauty and relief from eyestrain as in any permanent schoolroom.

The Mock and Morrison Tacoma portable schoolroom is a complete unit 24 by 36 ft. in size. It is a frame structure which meets fire and safety code provisions. Exterior plywood walls give it a neat and attractive appearance and a 3-ft. overhang of the shed-type, built-up mineral roof protects a solid wall of 8-ft. tall windows.

Inside, the room is a model of modern schoolroom design. New plastic chalkboards of green and white cover two walls and fit into the color scheme of warm pastel shades. Drapes along the windows add to the cheerfulness and beauty of the room. Eyestrain is eliminated by three rows of fluorescent lights which run the full length of the ceiling. Acoustical ceiling tile creates ideal sound conditions. Asphalt tile floors are easy on teacher and students and absorb foot noises.

Above the blackboards and on every door are cork bulletin boards for displaying art

(Concluded on page 94)



Cheerful interior of Tacoma's new movable schoolroom, which can be moved at will. Note wall of windows, compact built-ins, and modern lighting. Annette Merklein teaches pre-school group and likes the bright, movable room.

The American **School Board Journal** William C. Bruce, Editor

SCHOOL ARCHITECTURE IN 1950

THE passing of the year 1949 with its record of school building construction exceeding 850 million dollars in cost, and the conservative prediction that 1950 will see direct expenditures of more than 900 million dollars for new buildings and enlargement of existing plants, all seems to make little change in the serious over-all shortage of school accommodations for elementary and high school pupils.

During the year just beginning the school boards will experience greater difficulties than ever in solving their school plant problems. It will not be unwise for every school board to consider its problems in the light of its local situation, taking into account both the long range view and the immediate difficulties of (a) the growth in population and enrollment; (b) the financial situation of the school district and the municipality; (c) the availability and cost of building materials and craftsmen and the willingness of contractors to make reasonably priced, fixed contracts; (d) the reliability of the educational planning; (e) the adjustment of the building plans and construction to presently realized educational needs and to a balanced ultimate economy; and finally (f) the willingness of the community to go along with the program and its financing in the foreseeable future.

While the interest rates for public borrowing will continue low in the immediate future, the total amounts outstanding in some areas point to the need of considering the changing credit status of the school district in school bonding proposals. A less ambitious total and the deferral for a year or two of financing some desirable but not essential projects may be wise for assuring the goal of a complete ultimate school plant as well as a good financial rating.

With the influx of the baby crops of 1943 and 1944, with the constant shift of city populations to peripheral and suburban areas, the increase in school enrollments continues to be puzzling. Again, each community must make its decisions for added buildings and for enlargements based on local studies of changing conditions. The help of the whole community in learning trends, not merely a professional survey, are needed to support decisions and to provide financial outlays for the immediate and the long range programs. It is to be feared that some school executives will be carried away by the general enthusiasm for

new building programs and will overlook the temporary character of the enrollment bulge in certain areas of their communities. The predicted gradual recession in the birth rate suggests the serious need for studying types of construction similar to that used in Seattle where a number of movable buildings of an entirely new type offer a solution of the difficult problems of shifting and rising enrollments which are quite unpredictable.

The planning of classrooms for changing concepts of class organization and teaching methods is a further serious problem for 1950 which cannot be solved by accepting square rooms of a thousand or even eleven hundred square feet of floor area. The conventional room lengthened to provide a moderate size work area may more nearly meet the present instructional needs and may be economical to the extent that additional needed class units may be possible. Excessive zeal for keeping up with a neighboring community may be completely unfair to all but a fortunate few.

No school building program can be a success unless it is balanced as between the total educational and social needs of the community and its economic ability. There is strong evidence that total progress toward providing all children with adequate schoolhousing cannot be expected until federal aid is provided in many of the poorer states and even in some small sections of the more fortunate states. It would be distinctly worth while to promote immediate federal schoolhousing legislation while the controversies over general aid continue to rage.

DEALING WITH SUBVERSIVE TEACHERS

THE expectation of New York state school officials that the so-called Feinburg law would provide them with an effective weapon for eliminating communist teachers from the elementary and secondary schools, has been all but destroyed in a decision rendered by the Supreme Court (a district court) sitting at Albany. Justice H. E. Schirick holds that the statute is unconstitutional because it denies freedom of speech; provides for guilt by mere association; contravenes the constitutional traditions of fair play, and denies due process of law to one charged with an infraction.

The judge says that he is no admirer of Communism, but concludes, in justification for his finding, that the emulation of communist measures of repression which destroy the guarantees of freedom, provide no service to our democracy. The decision has been received with glee by the communist organs and has left the New York

state and city officials in a quandary, how to proceed against the communist members of school staffs.

The unconstitutionality of the Feinburg law which is a clumsy piece of legislation enacted under the emotional atmosphere of the postwar years and the Russian threat with its disdain of truth, honor and moral principle, should not deter schoolmen from eliminating disloyal communists from the schools, where they can spread error and destroy the confidence of young people in America and her institutions. This New York decision, the decision of the Maryland court which found the Ober law unconstitutional, and the New Jersey decision that teachers cannot be compelled to take an oath of office, are all reaffirmations of the American principle that a man cannot be found guilty of disloyalty on mere suspicion—he must be proved guilty in a court of law before such punishment as dismissal from his job can be inflicted.

The equal protection of all teachers under the law puts on school boards the responsibility for greater care in the selection of teachers and of candidates for teachers' licenses. Where presently employed teachers are found to belong to communist organizations and actually teach their destructive doctrines, the full courage and determination of school executives and school boards must be called into play to utilize the existing laws and to dismiss such teachers as unfit and unworthy of the professional offices they hold. Legislation should also be sought to safeguard the schools and the children, without destroying the educational freedom of teachers or giving school authorities a weapon for spying on or persecuting loyal citizen-teachers who are seeking the betterment of our political, social, and economic conditions through legitimate lines of reform. It is time also to discredit the few individuals who see dangers in every official measure which actually seeks to stop communists and their activities in the schools.

THE SCHOOL SHOP

SUPERVISORS and teachers of industrial arts frequently complain that their work is not fully understood and that they are unable to render the service which their students deserve because the academic groups hold them in unconscious disrespect and the executive heads of the schools have not thought through and approved the changes needed in curriculum and shop facilities to make the latter fully efficient.

We have been inclined to think that the shop teachers themselves are to blame for the situation because they have not informed their superiors of the progress made in the field of industrial arts. They

have not corrected the principal — and the superintendent — when he talked in terms of an old-time woodworking shop with its extremely limited scope and formal type of work. They have not shown what can be done in a general shop equipped with tools and materials for metalwork, electricity, printing, plastics, home mechanics, as well as woodwork. They have not told their superiors how a well-trained teacher can introduce his students to the great world of industry, help him explore his own interests, and realize his innate skills. They have not shown the school boards how fully they can provide knowledge and experiences that will help the boy find himself, so that the guidance teacher may recommend an occupation — a trade or a service type of work — for which the boy may prepare himself in the trade school and find a happy and remunerative career.

The industrial-arts shop is the natural, logical entrance into the vocational school, in which the courses will develop one or several closely related salable skills in an established occupation. It contributes to the attitudes that make up the successful workman, the independent human being, and the good citizen. It is of equal value to the boy who will go through college and into a profession, because it will provide a knowledge of materials and processes salable in any occupation and valuable for intelligent consumership and home life.

The industrial-arts shop is one of the strongest elements in any life adjustment education on the high school level. It forms the best starting point for providing a balanced life-adjustment program that will meet the needs of the 60 per cent of boys and girls for whom the academic subjects have lost interest, who need something more tangible on which to base growth and all-round development.

PAUL BACON, EDITOR

THE recent death of Paul V. Bacon, editor of Allyn & Bacon, is a genuine loss to American educational publishing. As editor he was largely responsible for the steady rise in quality of the textbooks which his firm sponsored during the past half century. An idealist and a firm believer in the idea that the educational publisher has a serious responsibility to contribute to the betterment of teaching through the improvement of that basic tool, the textbook, he encouraged dozens of pioneering authors and himself worked to improve the effectiveness of the manuscripts entrusted to his care. Few educators know, and fewer appreciate, the strong influence for educational progress exerted quietly by a modest man like Paul Bacon.

"All Aboard" —

National President Appoints Committees and Plans School Board Convention

Edward M. Tuttle*

J. Paul Elliott of Los Angeles, president of the National School Boards Association, recently appointed three important committees which are to report at the annual meeting in Atlantic City, February 24-26, 1950.

The *Committee on Revision of the Constitution and Bylaws* is charged with working out such changes in the laws governing the N.S.B.A. as will put into operation the decisions reached at the meeting concerning the type of national organization to be developed and the provisions for membership, finance, and service. Chairman of this committee is F. H. Trotter of Chattanooga, president of the Tennessee School Boards Association. Serving with him are Everett R. Dyer, executive secretary of the New York State School Boards Association, Inc., Robert Gustafson, president of the Colorado Association of School Boards; H. R. Praetorius, president of the Washington State School Directors' Association; and O. H. Roberts, Jr., president of the Indiana School Boards Association.

The *Committee of Resolutions* is headed by E. E. Clark of Naperville, Ill., second vice-president of the N.S.B.A. and immediate past president of the Illinois Association of School Boards. With him on this committee are Earle D. Baker, member of the Los Angeles Board of Education; Dr. Ray K. Daily, of Houston, Tex., first vice-president of the N.S.B.A.; Charles Hoff, executive secretary of the Nebraska State School Boards Association; Gano Lemoine, director of the N.S.B.A. from Louisiana; P. O. Van Ness, executive secretary of the Pennsylvania State School Directors Association; and Melvin Wilson, first vice-president of the Utah State School Board Association. This committee is anxious to receive copies of resolutions adopted by state associations at annual meetings prior to the national convention, and suggestions from any source as to matters on which the N.S.B.A. may appropriately take action.

The chairman of the *Committee on Nominations* is Calvin Grieder, executive secretary of the Colorado Association of School Boards, and serving with him are John O. Berg, president of the Wisconsin Association of School Boards; Mrs. I. E. Porter, executive secretary of the California School Trustees Association; Peter G. Schumacher, immediate past president of the New York State School Boards Association; and Fred G. Thatcher, executive secretary of the Louisiana School Boards Association. There may be some other appointees to this committee before the convention.

*Executive Secretary, National School Boards Association, Chicago, Ill.

Program Outlined for Atlantic City

The annual meeting of the National School Boards Association will be held in Haddon Hall Hotel in Atlantic City, beginning Friday, February 24. During the morning, incoming delegates will be welcomed and registered by a *Hospitality Committee* under the direction of Clifton B. Smith, director of the N.S.B.A. from New York, who has been requested by President Elliott to act as general convention chairman.

Sessions on Friday afternoon and evening will be devoted to opening ceremonies, an address by the president, a report from the executive secretary, and an intensive discussion by all assembled delegates as to the type of national association which is to be developed, the services it is to render, and an adequate and equitable plan for financing and maintaining its work. These considerations are of first importance if the organization is to take its proper place in the scheme of American public education.

Saturday morning will be given over to panel and group discussions in two sections, one devoted to "The Relation of Local, State, and Federal Governments to Public Schools," and the other to "The Responsibility of the School Board to the Superintendent, the Teachers, and the Community." School administrators who may already have arrived in Atlantic City, and who would be interested, are invited to these meetings.

Saturday afternoon, the school board delegates will pick up the discussion of the National Association where they left off on Friday night, and will endeavor to set the affairs of the organization in working shape for the coming year. Reports will be received and adopted from committees on Auditing, Resolutions, Revision of Constitution and Bylaws, Nominations, and others.

Saturday evening, the annual banquet will conclude the convention program with an address by a speaker of national prominence.

One feature of the N.S.B.A. meeting will be an exhibit prepared by the executive secretary showing the activities of the 40 state associations of school boards as expressed by (1) printed letterheads, (2) programs of state meetings, and (3) service publications.

Co-operation With the A.A.S.A.

Delegates and members of state school boards associations are urged to remain in Atlantic City for at least a part of the convention of the American Association of School Administrators. The educational and commercial exhibit will open on Saturday, and the program will begin on Sunday and con-

tinue through the following Thursday. On Monday afternoon at 2:30 a panel discussion will be held under the joint sponsorship of the A.A.S.A. and the N.S.B.A. devoted to a discussion of "Effective Working Relationships Between Boards and Superintendents." Dr. Herold C. Hunt, superintendent of schools in Chicago, will act as chairman of this discussion group.

Another discussion group of mutual interest will be held at 2:30 on Tuesday afternoon on the subject of "Boards of Education and Public Relations." The chairman will be Dr. Calvin Grieder, professor of school administration at the University of Colorado and executive secretary of the Colorado Association of School Boards.

Tentative plans are under way for a program on Sunday under the auspices of the National Citizens Commission for the Public Schools, which would involve both school board members and school administrators and act as a connecting link between the two conventions.

Recent Changes in State Associations

Word comes from *New Mexico* that a state association of school boards is in the making with the designation of Ray Soladay of Carlsbad as president and with organization plans in process. This makes a total of 40 statewide associations. Only Arkansas, Maine, Maryland, Mississippi, Nevada, Ohio, South Carolina, and West Virginia remain without a state association, and in several of these school board members and educators are discussing ways and means of bringing the school boards together.

The recently formed *Alabama* State Association of County and City Board Members and Executive Officers has a new president in the person of Dr. W. E. Allen, chairman of the board of education at Selma, Ala. Dr. Allen wrote the executive secretary of the N.S.B.A. as follows:

I am eager to perform my duties efficiently and am anxious for this organization to be of real service to the cause of education in our state, but I am new in this work. Therefore, I am writing to ask for your help. Please provide me with literature and information about the best plans and procedures I may follow in setting up a good organization. I think it would be helpful for me to know what similar organizations are doing in other states. Any information or help you can give me will be deeply appreciated. Needless to say, in response to such an earnest appeal, National Headquarters did its utmost to be helpful.

The *Illinois* Association of School Boards at its annual meeting in November elected Reinhard Wilson of Centralia as president to succeed E. E. Clark of Naperville who is also second vice-president of the N.S.B.A. This follows established precedent in the Illinois Association of alternating the presidency between the northern and the southern areas of a long state.

The *Indiana* School Boards Association announced at its annual meeting on November 30 that arrangements had been made with Dr. Maurice E. Stapley, School of Education, Indiana University, Bloomington, Ind., to assume the duties of executive secretary in place of C. V. Haworth of Kokomo who faithfully carried the secretarial work of the association during the early period of its organization.

The *Kansas* Association of School Boards reports the election of W. J. Graber, member

"A DESIRE FOR THE NEW YEAR"

In the year that is beginning, may we guard childhood as a gentle and sacred flame.—ARTHUR H. GLEASON.

When school boards look upon themselves first and foremost as "guardians of childhood" a difference in attitude toward their functions is apparent. Such boards are not solely concerned with the business aspects of the public schools—the raising and spending of money, the construction and maintenance of buildings, the employment of personnel, the approval of textbooks and course of study. Rather, their attention is focused at all times on the children for whom the schools primarily exist and are operated. Every decision of policy is conditioned by the question—Will this result in greater opportunity for the children to grow into happy, co-operative, self-respecting, effective citizens of this community, and of the state, the nation, and the world?—E. M. T.

of the board of education of Hutchinson, Kans., as president for the coming year to replace Laurin W. Jones of Dodge City.

The *Virginia* Association of School Trustees has a new president, Edwin T. Coulbourn of Suffolk, Va., succeeding James W. Smith of Richmond.¹

The National Secretary's Travels

Between November 26 and December 16, the executive secretary of the N.S.B.A. took a trip to the Far West and the Pacific Coast in the course of which he made the following contacts: (1) attended and spoke at a one-day meeting of the Wyoming School Trustees Association at Casper; (2) conferred for a day with the president and some directors of the Idaho State Trustees Association at Pocatello; (3) occupied a couple of periods on the program of the three-day annual convention of the Washington State School Director's Association in Walla Walla; (4) spoke at a one-day meeting of the Oregon State Association of School Boards in Eugene; (5) addressed an evening meeting of superintendents and school board members at the University of California at Berkeley on the topic "School Trustees Associations and the Advancement of Public Education." This meeting followed a dinner given to a group of leaders by Mrs. I. E. Porter, executive secretary of the California School Trustees Association; (6) met with several groups in the Los Angeles area, and spent time conferring with J. Paul Elliott, president of the National Association, concerning plans for the annual meeting of the N.S.B.A. in Atlantic City in February; and (7) stopped in Salt Lake City, on the way back to Chicago, to attend the annual meeting of the Utah State School Board Association. Generous contributions toward the expenses of this long trip, which permitted personal contacts with school board associations and

¹State officers and others who have Directories of State School Boards Associations are urged to note the changes indicated above, until such time as national headquarters can issue a revised directory around the first of the year.

leaders in six states, were made by the state superintendent of public instruction of Washington, Mrs. Pearl A. Wanamaker, and by the School of Education of the University of California. The National School Boards Association is greatly appreciative of this support.

School Board Welcomes School and Community Co-operation

The headquarters office of the National School Boards Association has received from Virgil M. Rogers, superintendent of schools in Battle Creek, Mich., copy of a resolution adopted at a regular meeting of his board of education which he says "seems to have a great deal of merit by way of encouraging the administration and faculty to endeavor to find ways and means of bringing about democratic administration in a school system."

The resolution, which is given below, speaks for itself, but it is commended to boards of education everywhere as a working example of the way in which school boards, while maintaining their full prerogatives and responsibilities, may serve to link together school and community and interpret each to the other.

Educational Groups in the Battle Creek Public Schools

Recognizing the growing importance of public education in American Democracy and being in complete agreement with the point of view that the schools should remain close to the people and that they should maintain constant contact with all elements in the community; and accepting the principle that all concerned with work of public education—the pupils, parents, and teachers—should have a part in developing the educational policy in the schools; we, the members of the board of education of Battle Creek, hereby go on record endorsing the instruments of democratic co-operation now functioning in our educational program, including the Parent-Teachers Association, Educational Advisory Council, the Teachers' Association, the Engineer-Custodians' Association, the Secretaries' Association, and the City-Wide Student Council.

As a board, we wish to encourage study, discussion, and active participation by all concerned through their several organizations in the promotion of the best possible program of education for our community. We believe that effective education for democratic living takes place only when adequate provision is made for actual practice in democratic action.

In recognizing the above mentioned co-operating organizations in the educational program of the Battle Creek public schools, and by encouraging their active participation in educational policy-making, we wish to make it clear that in no way does the board wish to escape its responsibility to the citizens of the community as the official governing body responsible to the people for a final decision on all matters of policy and educational programs.

Under the statutes of the state of Michigan, the board assumes its full responsibility in all matters relating to the program of public education in the city of Battle Creek, and invites fullest co-operation from all groups through suggestion, discussion, and recommendation.

MARYLAND REVIVES BUILDING POOL

Maryland's 50 million dollar school building pool has been revived by action of the State Legislature. The law which was invalidated through a technical error makes advances of 4 million dollars immediately possible to hasten school building construction.



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The Planning of the Large Group Instructional and Servicing Elements

R. Gommel Roessner*

In order to unite the elements of an educational plant into a functional, well-correlated and workable whole, care and skill must be employed in designing the instructional and service areas for group use; namely, the cafeteria, the library, the music and art rooms, the clinic, and the administrative suite. These departments must be designed not only for student adaptability but for adult education and community activities as well. Generally, it is advisable that these areas be placed on the ground floor for easy access by the general public. At least the administrative offices and as nearly as possible the outer rooms must be centrally located.

The Cafeteria

It is advisable that the cafeteria be located in a close proximity to the gymnasium for community activities and also in a fairly central position in relation to the school plant proper for ease of general circulation. Cafeterias are designed economically for approximately one half to one third of the total enrollment of a school. To promote ease of traffic and to alleviate general commotion during the noonday period, the cafeteria is to be located on a wide corridor and quite away from academic rooms.

The kitchen area must be provided with a service entrance and platform for the delivery of foodstuffs and the disposal of refuse. For evening use it may be advisable to provide an outside entrance for the general public. This will eliminate opening the entire building.

Planning. It is advisable that the cafeteria be rectangular in shape for ease of circulation as well as supervision. It would be ideal if the cafeteria opened to a planted garden spot where the students might relax before beginning the afternoon classes.

The cafeteria needs approximately 10 sq. ft. of floor area per student. Approximately 10 students per minute may be served at a 30-ft. counter. In larger schools two counters are advisable to accelerate this pace.

The larger dining tables have been outmoded to a great extent due to the limited flexibility in seating arrangement which they permit. To alleviate the general military appearance and to present a friendlier atmosphere, smaller tables may be arranged in interesting groups.

Color and Furniture. The cafeteria must be considered a place of relaxation and should be cheerful and avoid the drab institutional effect that dominates the majority of today's schools. Within this area the general nervous tension of the morning must be broken so that the children may be relaxed before beginning the afternoon classroom activities. It is advisable that the over-all wall surfaces avoid the use of brown, tans, and buffs, and that in their place fresh, cheerful, and warm tints be used.

The tables and chairs are to be of a plain

design which will prevent the accumulation of dust and dirt. The tops of the tables may be a colored plastic material that will harmonize with the decorative effect and withstand vigorous wear and cleaning.

Ventilation, Acoustics, and Wall Surfaces. Mechanical ventilation is a necessity in the cafeteria to prevent cooking odors and to check these odors from filtrating into the school proper. Even with an abundance of glass area and natural ventilation, mechanical ventilation must be employed during the winter months.

The cafeteria is a seminoisy area of the school. It is highly recommended that the ceilings be covered with approved acoustical plaster or tile.

The flooring and wall surfaces must be constructed of materials that may be readily cleaned, thus maintaining a high standard of health and sanitation. While it is noisy, terrazzo has proved to be very satisfactory for floors and base, and a smooth flat plaster finish painted with a nonglossy enamel is recommended for wall surfaces.

Kitchen. The kitchen area must be provided with adequate storage space for staple foods and a refrigerator room must be included for the storage of meats and perishable produce. The size of the cafeteria will dictate the equipment and necessary requirements of the kitchen area.

A kitchen may be designed at the ratio of approximately 2 sq. ft. per student; however, this ratio will decrease as the enrollment increases beyond the 500 students mark.

The kitchen floor is to be surfaced with terrazzo, and it is recommended that the walls be constructed of a ceramic or glazed brick. The ceiling is to be acoustically treated with a washable material. Mechanical ventilation and ample glass area should be considered an absolute "must."

The Library

It is advisable that the library be located in a prominent position in the school building proper for easy access by the students. If it is to be open to the adult community, it is necessary that the area be located on the ground floor and in proximity to the administrative office.

Planning. The library is to be planned for seating 10 per cent of the total enrollment of the school, with an approximate floor area of 20 sq. ft. per student.

Where the educational policy of the school permits, the entire library may be divided into two areas, one to be devoted to serious reading and study while the other is to be used for casual or recreational reading. The bookshelves are to be placed adjacent to the wall surfaces thus avoiding the idea of a separate stack area. The height of the shelves and the book groupings are to be fixed at a maximum determined by the age of the pupils accommodated, thus increasing the initiative

of the individual student to pick books for reading.

Where at all possible, the library should be located adjacent to a court or should open onto a garden spot where the students may enjoy the benefits of outdoor reading. Ample glass area is to be provided and, if at all possible, the windows should permit light from two or even three directions. The library is in a real sense the academic heart of the school; it should be designed in so pleasing and attractive a manner that it will invite the student to take advantage of its "storehouse of knowledge."

Aside from the library proper, a workroom for the mending of books, an office for the librarian, and an adjacent room for conferences are most desirable, and in the case of larger high schools, a necessity. Ample space is to be provided for storing and issuing films and slides for visual-education purposes and also for the storage of dated periodicals.

Color and Furniture. The school library of today is an inviting and relaxing area and not the dreary formal room of yesteryear. The walls, ceilings, and woodwork are to be light in color, with a high reflective value, while the stacks and furniture should be attractive in color and produce a friendly atmosphere. The color scheme is to be of restful rather than high intensity value. The flooring material should be rubber or cork which, with the aid of an acoustically treated ceiling, will produce a quiet effect.

Either indirect, flush, or fluorescent lighting fixtures are permissible; in any case they are to produce about 20 foot candles of illumination.

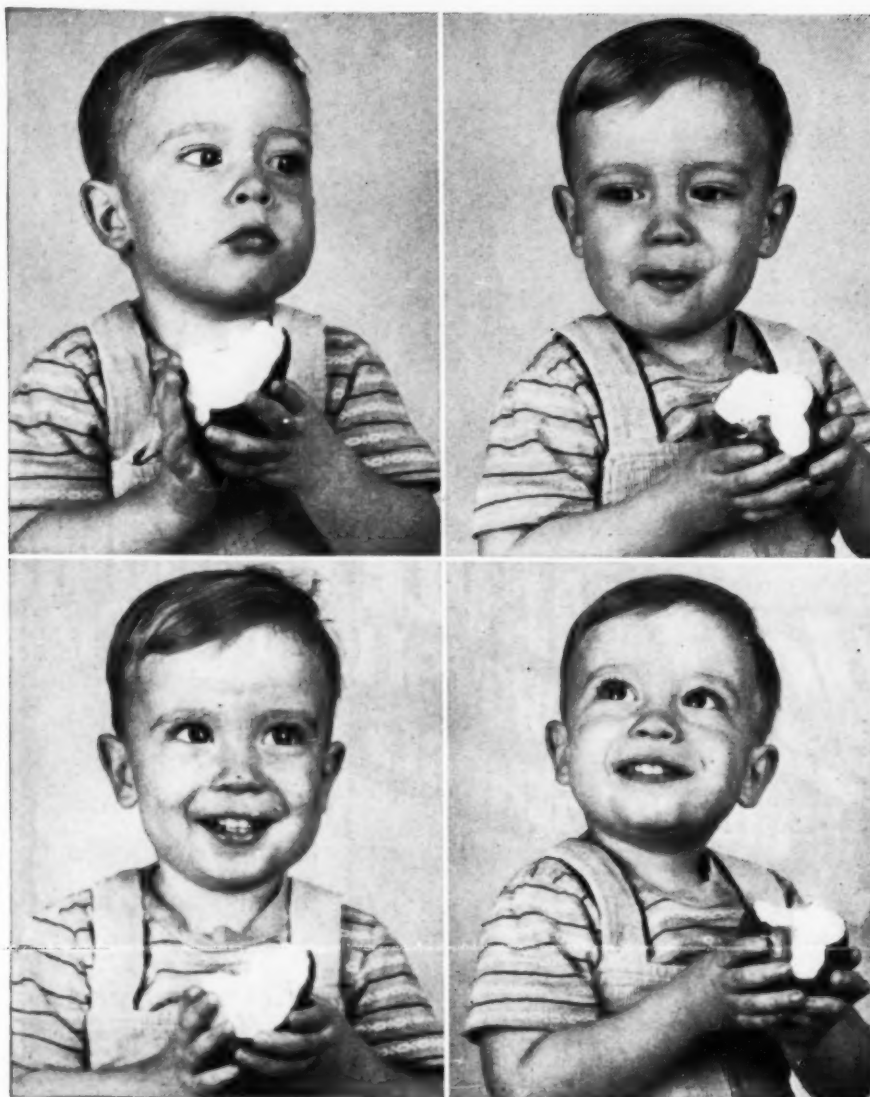
Music Rooms

The music education program varies so much in various communities that it is difficult to generalize concerning the music department area. The size and facilities may vary from an acoustically treated all-purpose music room to complete separate rooms for orchestra, choral, and band groups. Both the band and orchestra require a terraced area in order that the children may be seated and the teacher may control the ensemble. This area is to be acoustically treated in order that perfect pitch may be maintained and that the sounds both sweet and sour, may not interfere with the other school activities. For both the band and orchestra approximately 10 sq. ft. of floor area is required per musician, while approximately 7 sq. ft. is considered ample for choral groups. A room fitted with lockers and cabinets for the storage of musical instruments and band uniforms must be provided in the department. Shelving space for the music library is to be planned and incorporated.

To complete the space for musical education, practice rooms are desirable where individual instruction may be given and students may practice during free moments. These rooms should measure approximately 6 ft. wide and 10 ft. long, and should be acoustically treated. The music area is best located in the vicinity of the auditorium stage, where the musical programs for the most part are made available to the student body.

Equipment. To make effective a well-balanced musical program, considerable equipment must be included in the department. Sound projection, radio, sound amplification system, and recording equipment which are a

*Department of Architecture and Planning, University of Texas, Austin 12.



The Eyes Have It . . .

but not for long!

Look at this youngster's eyes! How they sparkle and glow with health and vitality. No visual problems there. But wait—wait till he starts to school.

★ ★ ★

In a Texas study it was noted that in the first grade 18% of the children studied had visual problems. This percentage increased to 40% in the third grade and by the end of the elementary school period the number of children having visual problems was 82%.

Out of this study came the concept of the completely child-conditioned classroom, in which artificial lighting, daylight control, decoration and

seating are coordinated to provide a comfortable visual environment. Wakefield helped pioneer this concept, and it is a source of pride to us that Wakefield equipment is providing highly efficient illumination in coordinated classrooms everywhere.

The most recent installation of note was in the John Simpson Junior High School in Mansfield, Ohio. An engineering survey by an independent consulting illuminating engineer shows this Wakefield Star installation meets or betters all artificial lighting recommendations of American Standard Practice. A copy of this report is yours for the asking. Write to The F. W. Wakefield Brass Company, Vermilion, Ohio.

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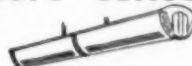
A BASIC CLASSROOM TOOL



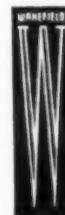
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THE COMMODORE



THE STAR





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MANY maple floors now in use are as good today as they were when installed over 50 years ago.

The best material for floors in your schools is long-wearing, resilient maple flooring, proven by its use in school buildings all over the country for over a century.

(Concluded from page 66)

part of the general school equipment are all vital for an efficient music education program. Chalk boards, bulletin boards, and ample storage space are needed for the choral, band, and practice room areas.

The Art Department

The basic requirements for a good art room is ample north light and artificial illumination that will produce 25 to 30 foot candles. Approximately 30 to 35 sq. ft. of floor area per student are required for freehand drawing, art-crafts, and commercial art. This area is to be provided with ample cabinets for the storage of the partially completed and completed students' work, and with individual locker or

drawer space for the storage of the equipment and drawing supplies.

Most art instructors require a small supply room with considerable shelf space and large shallow drawers for the storage of equipment and supplies.

In the junior high school classes, tilted artists' stands are recommended for student use. In the high schools at least a few large tilted tables for larger work space are advisable in addition to the usual artists' stands.

A door leading directly to the out-of-doors is recommended in one-story buildings for the many sketch classes at the high school. Art appreciation is an essential element of every good art education program and for this phase of the work provisions are needed for slide and motion picture projection.

Clinic

The size of the health clinic depends on the health program established by the administration. Smaller schools for the most part share a nurse with other schools, and it is necessary to locate the health room as close as possible to the administrative offices for supervision by the principal or secretary. In any case, it is advisable to place this unit in an accessible location for any emergencies that may arise.

In a large school, the ideal health clinic comprises a waiting room of approximately 200 sq. ft., with adjoining rooms for the doctor and dentist. The dental area should contain approximately 240 sq. ft., while the doctor's office, approximately 500 sq. ft. Sanitation is of major importance in these areas; and it is advisable to have the floors and walls of the doctors' offices constructed of tile or another material that may be readily cleaned.

The health clinic must not be designed and planned as a small hospital unit, but must be finished and furnished in a bright friendly style in order to instill confidence in the children who must come here for examination and treatment.

Administration

Space will permit of only the briefest mention of the administrative area. The offices must be centrally located and easily accessible both to the students and the general public. The main office area will naturally provide space for the clerical workers and the school secretary. The principal's or superintendent's office is considered the nerve center of the educational organization for it is here all educational services are initiated, controlled, and checked. Here the mechanical aids, the radio and recording equipment, the master time clock, and the two-way speaking system are located. The school safe and other pertinent school records are housed in this area.

The principal's office must be so arranged that the main entrance is through the general office and a private entrance is provided from the corridor artery. The waiting room in the outer office requires seating for students, parents, and other visitors waiting to consult with the principal.

In at least one central school building in every city there is need for a conference room for the school board. A small waiting room, an office for the secretary of the school board and the accountants, and other clerical help are needed in even the smallest community.

The necessary size of the administrative area is at the ratio of approximately 1 sq. ft. per person. The entire office area is to be acoustically treated, and fluorescent or indirect lighting fixtures are to produce approximately 20 to 30 foot-candles.

SCHOOL ARCHITECTURAL EXHIBIT PLANNED

A feature of the AASA Convention in Atlantic City, February 25 to March 2, will be an exhibit of school building plans and photographs or perspective drawings. The exhibit will be limited to buildings for use below college grade, erected since January, 1945, or at present under contract for erection. Descriptive data will enable school executives and school board members to study the design, type of construction, materials, and mechanical systems. A joint committee of school executives and architects will pass on buildings submitted before February 20 at the N.E.A. office, Washington.

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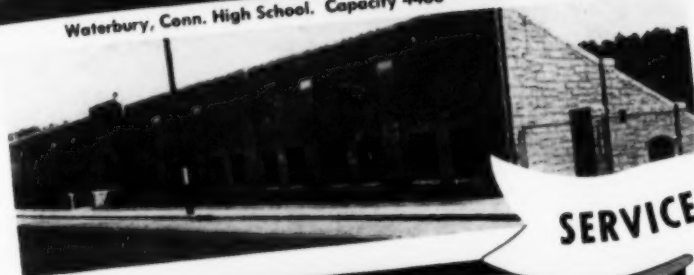
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Waterbury, Conn. High School. Capacity 4400



New Kensington, Pa. High School (South Stand). Capacity 5040.



Des Moines, Ia. Lincoln High School. Capacity 550.



Meadville, Pa. Allegheny College. Capacity 2880.



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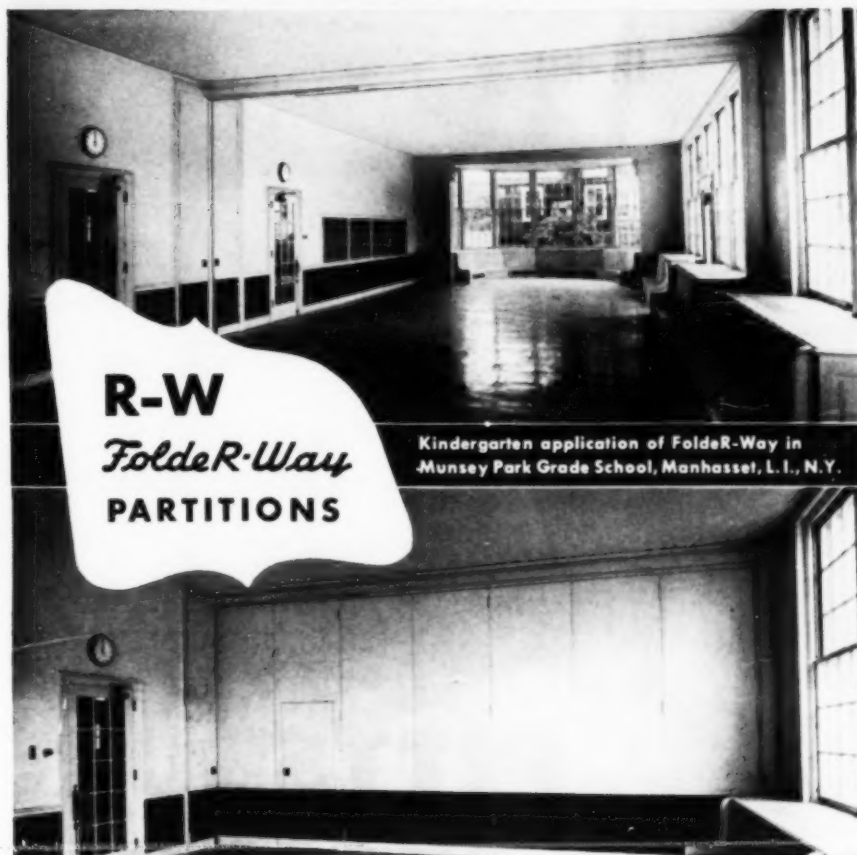
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vide a *three-in-one* use of floor space.

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1950



CHICAGO SPONSORS ANTI-VANDALISM CONTEST

To reduce waste, build up school libraries, help school-community relationships, and provide an appropriate civic project for the student councils, the Committee on Conservation of Public Property, Chicago, Ill., awarded \$24,375 worth of library books to 210 elementary, high, special and vocational schools with the best records in the 1949 glass-saving, anti-vandalism contest, declared Don C. Rogers, chairman.

As a result of the contest there was a reduction of broken window panes from 60,799 in 1946—

at a cost of \$273,000, enough for a new elementary school building—to 26,254 between January 1 and October 1, 1949. In addition to book awards, the top seven schools were presented with framed Certificates of Appreciation.

HEAD OF EDUCATION COUNCIL ASKS AID FOR ALL CHILDREN

Dr. George F. Zook, president of the American Council on Education, in his recent report to the council maintained that:

"Congress can, and, in my opinion, should make funds available to assist pupils, whether enrolled in public or private schools, in the matter of school lunches, transportation, non-religious textbooks and health services.

"... Much of the confusion relative to federal aid to education arises over provisions in several of the bills permitting or requiring the states to use part of the funds for one or more so-called auxiliary services to assist pupils enrolled in both public and private schools.

"... Some years ago, the supreme court unanimously decided that the use of public funds for the purchase of nonreligious textbooks for pupils in nonpublic schools was permissible. A few years ago, a similar decision was rendered with respect to the use of public funds to pay for the transportation of pupils to private schools as well as to pay for the transportation of pupils to public schools.

"... It is well known that during the recent war, and since, many millions of dollars of federal money have been appropriated for the school lunch program in both public and private schools. No one doubts but that health services should be equally available to both public and non-public schools.

"... Hence the solution of this baffling problem with respect to federal aid to education is clearly not so complicated as first it appears to be. The Congress can and, in my opinion, should make funds available to assist pupils, whether enrolled in public or private schools, in the matter of school lunches, transportation, non-religious textbooks, and health services."

PORT ARTHUR ADOPTS ANNUAL PROMOTION

After several years study by the administrative staff, Port Arthur, Tex., public schools are changing from the semiannual promotion plan to annual promotions, reports Superintendent Z. T. Fortescue. The change was made for two reasons:

1. Under the annual promotion plan no time is lost at mid-term. The student has the same teacher throughout the year, and the work may be planned for a full year, thus affording a better opportunity for an enriched educational program.

2. The annual promotion plan is more efficient from the standpoint of class organization and should result in some saving in operation and building expense.

Placing all students on the annual promotion plan will be accomplished over a two-year period. Adjustments in grades one through eight will be made through acceleration, depending upon the individual pupil. Students in high school will be accelerated by attending summer school to earn the necessary credits.

JONESBORO INSTITUTES SPECIAL CLASS

As the result of a study by Superintendent L. L. Goff of Jonesboro, Ark., a special class—originally intended for pupils of superior ability—has been set up in the Jonesboro High School for a group of average students with a median I.Q. of 98.

Instead of taking four courses concurrently, the pupils concentrate on one subject at a time, attaining one unit of credit each quarter. The class is in session 4½ hours per day with a flexible program of class discussions and reports, research by individuals and committees, the use of audio-visual aids, and a daily test. Extra help may be obtained during the 1½-hour period preceding the class sessions or the hour period following it. Pupils with a rating less than "C" on daily tests are required to attend one of these extra periods.

SCHOOL PLAYGROUNDS AND CITY PARKS COMBINED

D. Russell Parks, district superintendent of schools, Fullerton, Calif., reports the co-operative development of school playgrounds and city parks between the city of Fullerton and the Fullerton Elementary School District. Administratively entirely separate, the City Council and the Board of Trustees of the school district jointly have purchased and developed two such areas.

Playgrounds, play equipment, and other facilities are at the complete disposal of the school during the school day, and are available for recreational purposes after school, Saturdays, Sundays, and vacation periods.

This co-operation has doubled the effectiveness of the tax dollar of each organization and has provided the people of Fullerton with adequate and complete school and recreational facilities.

INITIATE TEACHER TRAINING AT CULLMAN

To employ the best trained teachers possible, since many teachers do not have degrees, the Cullman, Ala., city board of education has set up five standards for teachers who plan to teach in the Cullman city schools after 1949-50.

Superintendent L. W. Yates announces that the standards for teacher training—which are encouraged by a salary schedule—are:

1. Teachers who have less than a C Professional Certificate are required to go to school three months each summer until they remove requirements for a Class C Certificate. Upon receiving a C Certificate, a period of five years is set up to obtain a Class B Certificate.

2. Teachers who have a Class C Certificate are required to get a Class B Certificate within five years, or by September, 1954.

3. Teachers who have any type of certificate besides a Professional Certificate are expected to go to school three months each summer until a Professional Certificate is obtained.

4. Teachers who have their B Certificate are requested to keep up with the trends in education and to attend a professional school at least six weeks every five years.

5. Teachers who have their A Certificate are asked to read widely enough to keep up with movements in education in order to give the children the benefit of the best instruction.

TRINIDAD RADIO PROGRAM

The public schools of Trinidad, Colo., are conducting successful radio programs, which were begun in February, 1949. A total of 32 programs have been held according to schedule, and in addition, some special programs have been given by the high school dramatics class and the special studies group. A total of 666 students participated in these 32 programs. During the year 1949 a workshop was held for a period of eight weeks, under the direction of the two local radio stations. About 20 teachers attended the workshop regularly, and the final message was by Dr. Russell Porter, director of radio for the University of Denver.

A total of 39 scheduled programs are scheduled for the year 1949-50, with six different schools participating. In addition a number of special programs are planned by the dramatics class. Dr. James H. Wilson, superintendent of schools, has general supervision of the programs which are conducted by department heads of the high school and the special subjects supervisors.

MODESTO OPENS CENTRAL WAREHOUSE

Under the supervision of the business department, a new department, a warehouse, has been added to the Modesto, Calif., City School Administration and has proved of inestimable value both in increased service and economy to the district. Completed in April, 1949, the warehouse has demonstrated high efficiency in the handling and storing of supplies previously handled by individual departments, by rendering service on 90 per cent of all requests, reports Superintendent James Corson.

INTRODUCE MERIT PLAN

To appraise the effectiveness of teaching, a committee composed of teachers and one principal of University City, Mo., has initiated a merit plan that calls for the preparation of cumulative records by each teacher during the present school year.

The records consist of: (1) evidence of pupil growth, (2) evidence of attainment of good human relationships, (3) records of extracurricular and administrative service and of special assignments, (4) records of community service, and (5) records of contributions to the profession.

Individual teachers are making inventories of student problems and working with the principals in outlining major goals. The early formulation of plans should enable pupils and teachers to work together toward the solving of the recognized problems. At the end of the year it will be de-

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• There are two reasons why Kewaunee Laboratory Furniture rates top honors in so many of America's finest schools. First, because Kewaunee units are custom-engineered to fit science laboratory requirements. Second, they are mass-produced to fit school budgets!

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EDUCATIONAL DIVISION

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terminated to what extent the goals have been achieved.

It is believed that the merit plan will result in higher achievement of student learning and in the attainment of good human relationships among pupils and teachers.

GOOD MANNERS PROGRAM RECOGNIZED

The Good Manners Program in operation in the Madison School at Phoenix, Ariz., has attracted nationwide attention and has been described and illustrated in a leading news magazine and woman's periodical.

The children in the Madison School are given practical opportunities to practice good table manners as well as to observe etiquette at home, in the school, and on the street. The teaching method includes a problem period during which questions may be asked for discussion by the teachers and the members of the class. To assist the teachers, parents and a local restaurant owner have been asked to address the class.

WHARTON DRIVER EDUCATION COURSE SUCCESSFUL

For the second year, Floyd G. Betts, superintendent of Wharton, Tex., schools, is teaching a course in Driver Education and Driver Training to students of the city schools.

Mr. Betts has obtained a special teaching certificate in this field from the University of Texas. The instruction laboratory is equipped with numerous devices for testing personal characteristics of the driver, and a car with dual controls is used for behind-the-wheel work. A special course over a designated route has been laid out for the road tests. The pupil is graded from the time he assumes control of the car until he stops at the end of the test. After the test, a critique is held to acquaint the individual with his errors and to give the student constructive criticism. No accident has occurred for which a graduated student of this course was held responsible.

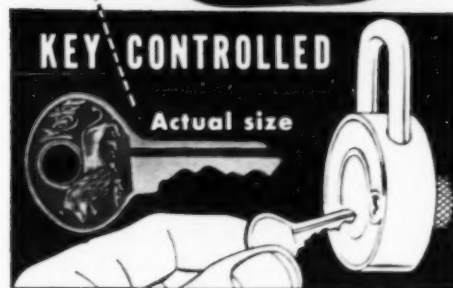
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- One master key with each series, unless otherwise requested. Single key opens every locker.
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COMING CONVENTIONS

Jan. 12. *Tennessee School Boards Association* at Nashville, Tenn. Headquarters, Andrew Jackson Hotel. Chairman, W. A. Shannon, 409 7th Avenue N., Nashville, Tenn. No commercial exhibits. Attendance, 300.

Jan. 12-13. *Tennessee Public School Officers Association*, at Nashville, Tenn. Headquarters, Andrew Jackson Hotel. Secretary, W. A. Shannon, County Superintendent of Schools, Springfield, Tenn. No exhibits. Attendance, 500-600.

Jan. 13-14. *Indiana City and Town Superintendents Association*, at Indianapolis, Ind. Headquarters, Lincoln Hotel. Convention chairman, H. H. Mourer, Superintendent of Schools, Bedford, Ind. No exhibits. Attendance, 150.

Jan. 24-26. *Manitoba School Trustees Association* at Winnipeg, Manitoba, Canada. Robert Love, Melita, Manitoba, in charge. No exhibits. Attendance, 700.

Feb. 1-3. *Minnesota School Board Association*, at Minneapolis, Minn. Headquarters, Nicol-

let Hotel. Chairman, Myron W. Clark, Stewartville, Minn. No exhibits. Attendance, 1200-1500.

Feb. 2-3. *The Pennsylvania State School Directors' Association*, at Harrisburg, Pa. Headquarters, Penn Harris Hotel. Chairman, P. O. Van Ness, Executive Secretary, 222 Locust Street, Harrisburg, Pa. Exhibits in charge of P. O. Van Ness. Attendance, 1800.

Feb. 18-22. *National Association of Secondary-School Principals*, at Kansas City, Mo. Headquarters, Municipal Auditorium. Secretary, Paul E. Elicker, 1201 16th St. N.W., Washington 6, D. C. Exhibits in charge of Paul E. Elicker. Attendance, 2500.

Feb. 24-26. *National School Boards Association*, at Atlantic City, N. J. Headquarters, Chalfonte-Haddon Hall Hotel. Secretary, Edward M. Tuttle, 450 East Ohio Street, Chicago 11, Ill. No exhibits. Attendance, approximately 100 delegates and alternates.

Feb. 25-Mar. 2. *American Association of School*

Administrators, at Atlantic City, N. J. Headquarters, Atlantic City Auditorium. Convention chairman, Worth McClure, 1201 Sixteenth St. N.W., Washington, D. C. Exhibits in charge of Karl H. Berns, 1201 Sixteenth St. N.W., Washington, D. C. Attendance, 10,000-12,000.

Feb. 27-Mar. 2. *Department of Audio Visual Instruction (NEA)* at Atlantic City, N. J. Secretary, Vernon Dameron, 1201 Sixteenth St. N.W., Washington 6, D. C. Attendance, 500.

MASSACHUSETTS FAIR EDUCATION LAW

Franklin P. Hawkes, superintendent of schools in West Springfield, Mass., has been named Massachusetts director of fair education practice. He will administer the state's recently enacted fair education law. The measure forbids any school which accepts applications from the public to discriminate on the grounds of race, color, religion, or national origin. Schools and colleges operated by religious faith are exempt from the law. Hawkes, 54, will take over the \$6,600 a year position on January 1.

Massachusetts is the third state in the nation to have a fair education law. Dr. Alexander Brin, chairman of the Massachusetts State Board of Education says the board does "not plan any witch hunt" but it hopes to create "a favorable climate for operation of the law through co-operation."

The plan for consideration of complaints calls for a preliminary investigation of cases formally presented to the board. If mediation meetings fail, the alleged violator may be called before the education board, which has been given power to issue "cease and desist" orders. The next step would be an appeal to the Superior Court by either party and an appeal to the State Supreme Court.

No criminal proceedings are authorized under the law, but Dr. Brin points out that failure to abide by a court order could result in a citation for contempt of court.

HOLD HONOR NIGHT

The Hillside, N. J., board of education, in cooperation with the local Parent-Teacher Association, the American Legion, and the Teachers Association, recently tendered a dinner to the retired members of the board of education and incidentally discussed educational problems and gains in the local school system.

The "Elizabeth Daily Journal," in commenting on the occasion, pointed out the fact that members of boards of education are rarely given recognition for their good services in the cause of education. At most, a bronze plaque is attached to a new school building and members of the board are criticized whenever they take a stand in a controversial matter.

The dinner at Hillside High School was addressed by Dr. Wayne T. Branom, supervising principal of schools. Certificates of Service were given to the former members by Edward W. Earle, at present, president of the board of education. The list of guests included 27 former members of the board, and the program of the evening listed 19 deceased members who had served since 1913, when the board first was organized. The master of ceremonies of the evening was Henry Goldhor, Esq., a member of the board of education.

PUBLIC RELATIONS AT ROBSTOWN

With the intention of keeping the people informed about the schools so that they will make intelligent decisions regarding future proposals, the Robstown, Tex., board of education sponsored a dedication of the Robstown Memorial Gymnasium and Robstown elementary school. Dr. E. H. Potect of A & I College, Kingsville, Tex., gave an address. The dedication was followed by an Open House, at which special committees explained the schools' services and needs to parents and patrons. Motion pictures of school buildings and the school program have been made for use by school people appearing before various local groups.

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The design and construction of Mengel Hollow-Core Flush Doors are the products of extensive field experience, continued laboratory research, and skilled labor which has made Mengel one of the greatest names in the wood industry.

- 1 40% lighter in weight than standard painted hardwood doors.
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- 6 Extra Guard Against Warpage - provided by special mill-curing process.
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GUARANTEE - All Mengel Hollow-Core Flush Doors meet the standard door guarantee adopted by National Door Manufacturers' Association.

USAGE

Mengel Hollow-Core Flush Doors are constructed with water-resistant, long-life glass, and are ideal for exterior use.

Sills and bells may be made to match face where so ordered.

Door openings may be cut within 5 inches of the bottom or top edge, and within 5 inches of the side (see Figure 1). If doors are to be cut down in height, equal margins should be left from top and bottom, and one to exceed one inch.

SPECIAL DOORS

Mengel Hollow-Core Flush Doors can be manufactured in other sizes, widths and thicknesses, to your requirements, with circular or rectangular light openings, with beveled openings, or with special faces or non-individual designs. Doors with two lock blocks or with special corner blocking or special construction of doors, etc., also can be furnished. Full details upon request.

FIGURE 1



FIGURE 2



FIGURE 3



BETTER DOORS, AT COMPETITIVE PRICES

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You know and we know that "all flush doors are NOT just alike." Door qualities vary as much as the experience, know-how, efficiency and integrity of their makers.

Mengel Flush Doors — Hollow Core and Solid Core — are built the way you'd want them built, of the materials you yourself would choose. Their specifications prove it. Finer or more dependable doors cannot be obtained at comparable prices.

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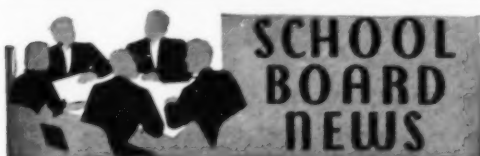
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WORCESTER HAS NEW SCHOOL COMMITTEE

Worcester, Mass., has elected a new School Committee under a new charter which provides for a council-city manager form of government. Chief changes are reduction of the committee membership from 11 to 6, all elected by city-wide vote, instead of by wards with one member-at-large, and the provision that the mayor

shall be the chairman instead of electing a chairman from the membership. The new committee begins to function January 3.

A citizens Committee which successfully conducted a campaign to have the new charter adopted endorsed five school committee candidates. Four of them were successful.

The advent of the new committee will mark the end of the membership of Rear Admiral Wat Tyler Cluverius, U.S.N. (retired) who has been the member-at-large the past two years and the committee chairman. He is credited with making a substantial contribution to the Worcester school system. Admiral Cluverius is president of Worcester Polytechnic Institute.

Under the new form of municipal government, school property, which has been in charge of

the city's public building department will be under the direction of the school committee. But the present committee has voted to have the Public Buildings Department continue in charge until school department employees are named to replace them.

SCHOOL BOARD NEWS

► Avon, Mass. School board members from ten towns are participating in a course offered by the state department of education. The course consists of six lectures on the powers, duties, and responsibilities of local school boards.

► Lano, Tex. Herbert E. Kellner has been employed by the board of trustees here as consulting architect in connection with proposed plans for improving the local school facilities.

► New Britain, Conn. The board of education has voted to appoint a committee of 11 citizens to work with the board in studying the general school problems of the town and to make recommendations regarding school building needs.

► Natick, Mass. The school board has voted an experimental driving training course for students of 16 years and older for the second half of the present school year.

► Houston, Tex. After ten months of work, a citizens advisory committee has made recommendations to the board among which are included the following: (1) conversion of one high school into a combined academic-vocational training school, adding new shop buildings to take care of an enrollment of 5000; (2) conversion of another high school into a combined academic-commercial and business training school, adding 100,000 sq. ft. of floor space; (3) conversion of one of three Negro high schools to an academic-vocational training school, or the building of a new one for that purpose.

In no case would the inclusion of vocational and commercial courses interfere with college preparatory courses at these schools. A major departure from past surveys is the unanimous decision of the committee against the construction of a vocational school which would offer only technical courses. Another recommendation is that instruction in vocational, job-preparatory courses could be obtained by post-graduates as well as undergraduates.

► Ogden, Utah. It is reported that by actual count of preschool children here, the total enrollment here will increase from 11,345 in 1948-49 to 13,690 by 1953-54. This will continue to increase to reach a total of 15,750 by 1958-59. This means that the board of education must provide nearly 100 additional classrooms by 1953-54 and more than 165 additional classrooms by 1958-59.

► Oklahoma City, Okla. A five-person committee has been named by the citizens group on education to screen all candidates and members up for re-election to three posts on the Oklahoma City school board.

► St. Louis, Mo. A recommendation that a Negro be appointed to fill the vacancy on the board of education here has been made to Mayor Joseph M. Darst by the Teachers Federation of St. Louis.

► Stillwater, Okla. The school has decided that immediate educational needs call for two new elementary schools.

► Lincoln, Neb. The public schools' policy on exclusion, suspension, and expulsion of pupils has been approved by the school board. Exclusion of a pupil, which is short-term and should be limited to 24 hours, is the responsibility of the building principals. Suspension is indicated only in grave situations. It involves dismissal of a pupil from classes, buildings, and grounds. Expulsion is the only one of the three under the authority of the school board. Superintendent Gilbert Wiley, however, points out that expulsion is rare.

► Canon City, Colo. In connection with a school bond election, the board of education of School District No. 1 has issued an attractive pamphlet containing a full explanation of proposed school building construction.

American Universal Desk No. 434 is available in three sizes for all grades and for adults. Full length steel pencil tray inside book-box. All metal parts finished in durable baked enamel. Fluted foot-rest minimizes marring of finish. (Inkwell available as an accessory.)

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American Universal Desks are built to fit boys and girls. They are comfortable to sit in. They tend to reduce restlessness, promote relaxed sitting with freedom to perform, permit more productive study, contribute to higher average grades. Their scientific design promotes better posture.

American Universal Desk No. 434 embodies the results of years of scientific research. Comfortable cradleform seat swivels 45° either way, has deep-curved back and self-

adjusting lower rail. Rounded, one-piece steel book-box is roomy and sanitary. Both seat and desk are adjustable as to height. Durable natural-wood lacquer finish has 30% to 55% reflectance to guard visual comfort. Write today for complete information.



Fine Furniture for All Needs

American Universal Desks; Envoy Chairs, Desks, and Tablet-Arm Chairs; Universal Pedestal Chairs; Universal Tables; Steel Folding Chairs; and Bodiform Auditorium Chairs.



American Bodiform Chair No. 16-119 combines modern beauty with maximum comfort and durability. Automatic safety-fold action; no pinching or tearing hazards. Upholstery easily replaceable.



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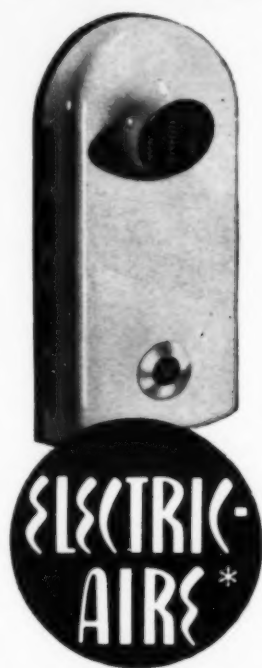
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Ask for demonstration or facts and figures that would apply to YOUR school system.

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NEW PUBLICATIONS for School-Business EXECUTIVES

SCHOOLS

By Lawrence B. Perkins and Walter D. Cocking. Cloth, quarto; 264 pp., \$10. Reinhold Publishing Co., New York 18, N. Y.

The subtitle of this book, “Progressive Architecture Library” provides an insight to the authors' approach and purpose in writing this general work on the planning, design, mechanical equipment, and furnishing of school plants. The senior author is widely known as an exponent of the progressive type of school building planning and has rendered valuable service in plan-

ning and supervising the erection of outstanding examples of ultramodern elementary school plants. The junior author is a schoolman of long experience who has had a great deal of opportunity to examine critically numerous school buildings in the field and on the editorial desk.

The book is comprehensive in its discussion of the authors' approach to totally satisfactory solutions of the problems of (1) site, (2) overall planning of school buildings, (3) classrooms, (4) spaces for large instructional groups, (5) shops and laboratories, (6) physical education, and health units, (7) service facilities, (8) the mechanical and sanitary equipment; (9) the selection of materials and finish of indoor and outdoor parts.

A second section of the book takes up the broader school building problems of current community needs for new buildings; basic infor-

mation needed and procedures to be used in planning; current views on and methods of financing, etc.

The book is a delightful, and at times annoying, combination of progressive and idealistic thinking on the broad factors of providing American communities with completely functional school buildings. The school executive who reads will want to do so thoughtfully and with constant reference to the ideal possibilities of educational progress in his own community and with a strong regard for the immediate needs, the current limitations of program and pocketbook, and the likelihood of growth in the direction the authors believe education and the educational plant should move. Which does not mean that every page of the book is not studded with practical ideas and keen observations on good and bad practice in both educational and school construction.

On two major attitudes of the book the authors deserve full commendation: (1) the school building should be livable and should promote to the utmost the teaching and learning processes; and (2) it should not be built to outlive its educational usefulness by decades and decades.

Financing Education in Efficient School Districts

By Francis G. Cornell, William P. McLure, Van Miller, Raymond E. Wochner. Paper, 165 pp. Bureau of Research and Service, College of Education, University of Illinois, Urbana, Ill., 1949.

This significant study of school districts in the state of Illinois suggests definite plans of reorganizing school districts, for establishing a combined state and local pattern of financial support, and for improving transportation and housing. The technically significant part of the book is an appendix developing completely and in a practical form a sparsity formula for adjusting state aid and for improving methods of estimating transportation costs.

Building Construction as Applied to Fire Insurance

By Charles C. Dominge and Walter O. Lincoln. Cloth, 187 pp. The Spectator, Philadelphia 39, Pa.

This modest volume takes up in 11 chapters the principal problems connected with planning and constructing buildings of all kinds for safety against damage by fire. Successive chapters describe with technical detail the several types of construction, from the combustible frame structure to the most elaborate fire-resistive building. The advantages and disadvantages of each type are pointed out and constant reference is made to the elimination of fire hazards.

The authors are most serious in calling attention to the enormous losses due to fire and the possibilities of overcoming the hazards by (1) correct construction, (2) the use of fire stops and other fire-preventive measures, and (3) adoption of utilization procedures, and good housekeeping methods which will obviate both the physical and the moral hazards that cause explosions and fires.

It would be interesting to have the authors add in later editions some information in brief chapters concerning the peculiar hazards found in special types of buildings such as hospitals, schools, warehouses, etc. School authorities need specific help in overcoming the dangers in special features as stair construction, laboratories, home-economics rooms, ventilating systems, etc.

School-business executives will perhaps find the greatest value in this book in the chapters devoted to fire-resistance ratings, inspections for underwriting purposes, and recommendations for overcoming hazards that penalize owners in the form of higher insurance premiums.

A Roof Over Their Heads

A report. Paper, 8 pp., 1949. Richmond, Calif., Board of Education.

In this completely illustrated booklet, Supt. George D. Miner tells how Richmond has spent 7.5 million dollars for school plant improvement; he urges that 1000 children must still be housed in new adequate buildings.

(Concluded on page 78)

How Do Your Floors Rate?

Hillyard's QUIZ ON SCHOOL FLOOR MAINTENANCE

Here are 6 questions often asked our expert floor "Maintaineers." Check through this quiz . . . see if your floors are being maintained properly.



1. What should I use to clean traffic marks, dirt and grime from floors, walls, woodwork . . . safely and thoroughly?

ANSWER: Hillyard Super Shine-All
An all-purpose, neutral chemical cleaner. Cleans, protects in one easy application. No rinsing. Underwriters' approved.

2. What is your best anti-slip treatment for protecting school floors from heavy traffic?

ANSWER: Hillyard Hilco-Lustre
A slip-resistant floor renewer. Leaves hard, glossy finish. Not a wax but self-polishing top coat. Approved by U/L as "Anti-Slip."

3. I need a tough, anti-slip finish for my gym floor. What is universally used?

ANSWER: Hillyard Star Gym Finish
Created especially for gyms. Does not darken floor. No glare. Non-skid footing. Choice of 15,000 gyms. Makes excellent dancing surface.

4. What is the best product for removing old varnish or paint from desks and floors without fire hazard?

ANSWER: Hillyard Kurl-Off
Zips off old paint and varnish with ease. Non-inflammable . . . Does not raise grain or darken surface . . . absolutely safe for any job.

5. Is there a liquid wax that will give my school floors a long-lasting sheen, but keep them safe for the youngsters?

ANSWER: Hillyard Hil-Brite
A liquid wax, easy to apply. Dries bright with slip-resistant finish without buffing or polishing. Flooring manufacturers approve . . . U/L say it is "Anti-Slip."

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HILLYARD PRODUCTS: Always the Correct Answer To Your School Floor Problems



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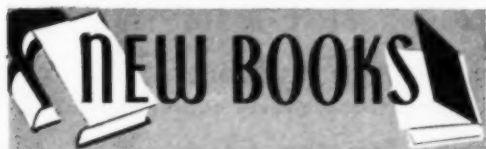


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BEAUTIFIES AS IT PROTECTS



Christianity and American Education

By Edwin H. Rian. Cloth, 272 pp., \$3. The Naylor Co., San Antonio, Tex.

This book argues that, as Christianity is the basic religion of the American people and is historically and practically the essential foundation of our culture and morality, it must be an integral part of our educational system. The naturalism and secularism which permeates the prevailing philosophies of education must give way again to a philosophy in which reason is supported by revealed religion if we are not to lose our religious foundations and fail in the

ultimate purposes of life—individually, as a society, and as a nation. While educators will disagree with many arguments of the author they cannot fail to be impressed with the seriousness of the problem.

Expenditure Per Pupil in City School Systems, 1947-48

Compiled by Lester B. Herlihy and Clarence G. Lind. Paper, 27 pp. Circular No. 260, October, 1949, of the U. S. Office of Education, Washington, D. C.

An analysis of the per pupil expenditure for current expense in 237 city school systems. The data for the school year 1947-48:

Group I, 50 cities with a population of 100,000 and upward, spent a median of \$110.56 in 1940-41 and \$170.76 in 1947-48. The increase is 107.4 per cent.

Group II, 55 cities with 30,000 to 100,000 population, spent in 1940-41 a median of \$106.82

and in 1947-48 a median of \$203.63, an increase of 90.6 per cent.

Group III (69 cities reporting), with 10,000 to 30,000 population spent in 1940 a median of \$88.24 and in 1947-48, a median of \$174.04, an increase of 97.2 per cent.

Group IV (63 of 2,206 cities reporting) of 2500 to 10,000 population, spent in 1940-41 a median of \$82.35 and in 1947-48 a median of \$170.76, an increase of 107.4 per cent.

Salaries of Superintendents of Schools

Paper, 30 pp. Circular No. 9, October, 1949. Published by the Research Division, National Education Association, Washington 6, D. C.

A report on trends in salaries paid and current practice with respect to transportation allowances and other factors related to salaries. The report includes salaries of department heads, directors, supervisors, librarians, custodians, clerks, lunchroom employees, and medical staffs.

The median of superintendents in Group I cities is \$17,250; in Group II cities, \$10,813; in Group III cities, \$9,239. It is to be noted that most cities make a liberal allowance for conventions and the use of cars.

Basic Salary Schedules for Principals in Cities Over 2,500 in Population

Paper, 35 pp. Circular No. 8, 1949. Published by the Research Division, National Education Association, Washington 6, D. C.

A report on salaries of city school principals in 2187 school systems, of which 538 reported definite schedules. More than one half, or 55 per cent of the schedules, base the principals' salaries on the classroom teachers' schedule, with differentials for additional responsibility. Of the 538 schedules listed, 52, or 9.7 per cent, are of the single-salary type. Most of the salaries are scheduled according to the level of professional preparation or the level of preparation plus the size of the school supervised.

Annual Report, Supply Commissioner, St. Louis

By A. K. Nushan. Paper, 12 pp. St. Louis, Mo. Board of Education.

This report for the year ending June 30, 1949, embraces the work of purchasing general and lunchroom supplies and conducting the repairs and maintenance services. The operations embraced expenditures of \$2,879,603 for supplies and \$826,595 for lunchroom operating costs.

The Structure of State Departments of Education

By F. F. Beach & A. H. Gibbs. Paper, 81 pp. Misc. No. 10, Federal Security Agency, Office of Education, Washington, D. C.

This factual and statistical account of the 48 state departments of education brings out the structure and the functioning of the several official groups, and makes possible an understanding of the weaknesses and limitations of the different legal setups and financial provisions. An exceedingly modest proposal for overcoming the inadequacies of the present organizations is presented in the form of a composite of good practices which prevail in some of the states.

Music Rooms and Equipment

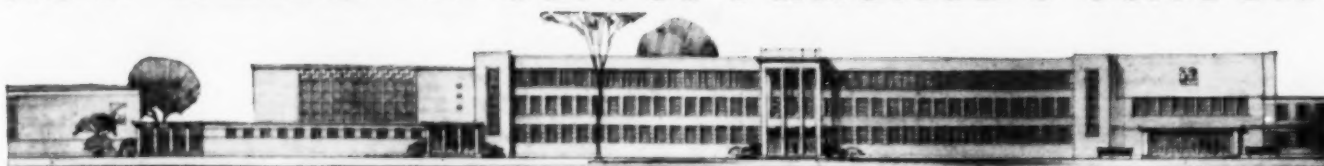
By Clarence J. Best. Paper, 112 pp., \$1.50. Music Educator, National Conference, Chicago 4, Ill.

This study takes up (1) the general purposes and uses of teaching areas for music; (2) the location of music rooms; (3) types of music rooms with details concerning the plan, construction, and equipment; (4) 17 types of rooms desirable in large and small schools for the preparation of acoustical treatment of rooms with emphasis on exactly the right amount of sound and its isolation; (5) the illumination of rooms; (6) air conditioning and warming of rooms; (7) permanent and temporary equipment; (8) provision for radio and television broadcasts and the use of visual aids; (9) the arrangement of hand shells. The material is presented strictly from the standpoint of the teacher of music and is intended to provide comprehensive suggestions that will aid in the planning of music departments in new school houses and in buildings undergoing remodeling.

While some emphasis is placed on extremely complete and even elaborate layouts there is tucked away in the study much of the practical information which teachers and architects will need who are developing plans with extremely limited budgets.

The Milwaukee Board of School Directors has elected HAROLD S. VINCENT of Canton, Ohio, as superintendent of schools to succeed the late Lowell P. Goodrich. He will assume office July 1, 1950, for a term of three years.

New Ohio Senior High illustrates how **BERGER** serves America's schools



Euclid Senior High School: Harry A. Fulton, Architect; R. B. Delamotte and Ben Krinsky, Associate Architects; R. P. Carbone Const. Co., General Contractor.



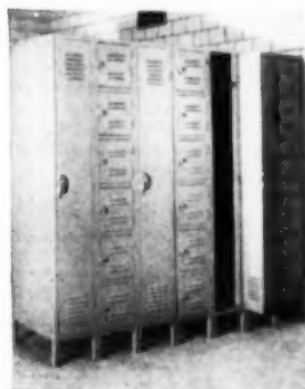
1760 Berger recessed single tier steel lockers line Euclid Senior High School corridors. Door louvers allow full ventilation.



35 homerooms are equipped with this recessed combination teacher's wardrobe and book shelf unit, finished in modern silver gray.



Opened door view shows teacher's wardrobe and book shelf unit in use in Euclid Senior High School mathematics department.



154 Free-standing Berger single tier lockers and 702 Berger box lockers serve girls' locker and dressing rooms. Boys' locker and dressing rooms include 154 free-standing single tier lockers and 720 truck-mounted Berger wire baskets

3500 Lockers and Storage Units Planned, Designed and Installed by BERGER in New Euclid School

This "City of Homes" broke ground for its modern \$4,500,000 high school in June, 1947. Opened for classes in September, 1949, Euclid Senior High School will accommodate future enrollments of 2400.

From the time it was on the drawing boards, Berger representatives worked closely with city officials and school architects on the school's storage problems. The result of this joint official-architect-manufacturer planning is a complete, highly functional installation of Berger Steel Lockers and Storage Units in corridors, homerooms and locker rooms.

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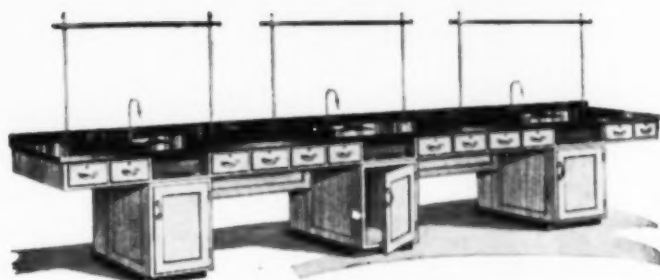
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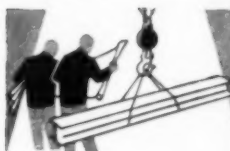
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SCHOOL BUILDING NEWS

► Kansas City, Mo. Contracts have been let for alterations and additions to the Shawnee-Mission high school for which \$2,335,000 in bonds were voted last year.

► New Braunfels, Tex. An election has been called by the board of education for the purpose of issuing \$550,000 in bonds for an expansion program.

► Abilene, Tex. School Superintendent Nat Williams has predicted that Abilene will need \$2,195,000 worth of school construction in the next ten years.

► Andover, Mass. A survey of local school building needs by Dean Jesse D. Davis, of Boston University, and Dr. Cyril G. Sargent, of the Harvard School of Education, states that only one out of seven existing school buildings can be considered of present-day use. An immediate expenditure of a million dollars or more faces the school system.

► Hartford, Conn. The board of education has given unanimous approval to basic plans for East Hartford's proposed new \$3,000,000 high school.

► Artesia, N. Mex. Ground has been broken for the quarter million dollar Artesia Junior High School to be erected here.

► Alliance, Neb. The school board here has asked the Department of Education of the University of Nebraska to double-check plans for its proposed \$500,000 high school. The board said that the proposed facilities will be planned so that in the opinion of the University survey committee, they will be adequate for a period of 15 years.

► Birmingham, Ala. Contracts for new con-

struction have been awarded by the board of education here and a revised budget has been approved. The budget calls for estimated expenditures of \$5,819,687 against estimated receipts of \$5,723,997. The deficiency will be made up from the reserve fund which totals more than \$1,000,000.

► Watertown, S. Dak. A bond issue of \$325,000 has been voted here for school building construction.

► Antioch, Calif. Construction is planned for a \$300,000 elementary school to be used in the fall of 1950. Development of a 32-acre site for high school purposes is in the planning stage.

► El Segundo, Calif. Roger B. Everly, district superintendent of schools, reports that the El Segundo Unified School System has authorized \$6,000 to provide students with materials for building a bus garage on the high school site. Shop class teachers drew up the plans and selected the site for the project which took one year to develop, giving students an opportunity to learn the complete application of several building trades.

► The first construction under the \$600,000 Canon City, Colo., school improvement program, approved by a 789 to 692 vote November 2, will start about April 1, 1950, according to J. Harrison Hawthorne, board secretary.

Architect Edward L. Bunts of Colorado Springs, Colo., estimates the cost of the project, which includes two new classrooms and a multipurpose room at the Harrison elementary building, at \$100,000.

► Denver, Colo. Contracts for the new Stephen Knight school have been awarded. The school will cost \$698,391.

GOVERNMENTAL DEBT

The gross debt of states and local governments has risen about 5 billion dollars in the three years ending June 30, 1949, according to the United States Department of Commerce. Population

growth has been greater, however, so that the 1949 state and local debt per capita is \$140, less than it was during the 30's and 40's.

The gross debt of local governments as of June, 1949, was 4024 million dollars and the local debts 16,851 million dollars. Data concerning the debts of school districts are not yet available.

SCHOOL BUILDING COSTS

The American Appraisal Company has reported that the average building cost of domestic and commercial buildings in 22 American states was 484 as of October 30. This is a decline of 20 points or 4 per cent since the peak of 504 was reached in October, 1948.

NEW SCHOOL BUILDING CONSTRUCTION

Dodge reports that in 37 states east of the Rocky Mountains, contracts were let during the month of November, 1949, for 301 educational buildings, with a floor area of 6,189,000 sq. ft., at a contract price of \$62,308,000.

SCHOOL BOND SALES

During the month of October, 1949, school bonds in the amount of \$50,967,350 were sold. The largest sales recorded were: Connecticut, \$8,530,000; Michigan, \$7,548,500; Washington, \$7,521,500; Pennsylvania, \$5,735,000. During the same period sales of short term paper were recorded in the amount of \$5,312,000.

The average yield of twenty bonds as of November 1 was 2.14 per cent.

During November, 1949, permanent school bonds were marketed in the amount of \$69,831,600. The largest sales were: Arkansas, \$3,140,000; California, \$8,550,000; Delaware, \$10,000,000; Kansas, \$3,434,000; Kentucky, \$4,000,000; Michigan, \$5,086,300; New York, \$3,563,000; Texas, \$12,578,000. The average rate of interest of selected bonds was 2.11 per cent.



THE STUDY-TOP chairs in all Wildwood, N. J. Catholic High School rooms are Heywood-Wakefield model S 501 STBR, with a convenient book rack at the side. Like all Heywood-Wakefield school units these are sturdily constructed of lightweight, welded tubular steel, and designed for comfort and correct posture. The ease with which these units may be moved about to suit changing classroom needs assures a full measure of long, satisfactory service.

Write for our new illustrated brochure showing all Heywood-Wakefield tubular steel School Furniture and Auditorium Chairs. Heywood-Wakefield, School Furniture Division, Menominee, Michigan.



Heywood-Wakefield model TC 602 seats are used in the 568-seat auditorium.

Tubular Steel Furniture Installed Throughout

WILDWOOD CATHOLIC
HIGH SCHOOL



This modern Wildwood, N. J. Catholic High School was designed by Gleeson & Mulroony of Philadelphia. The installation of classroom and auditorium units was arranged through Walter Reed, Heywood-Wakefield Company. One Park Avenue, New York 16, N. Y.



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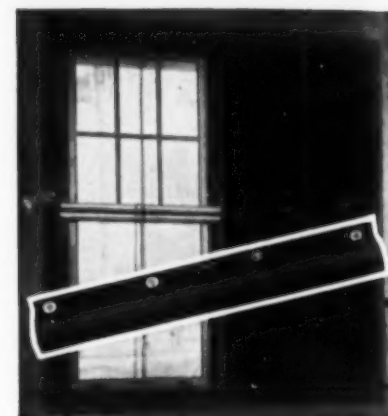
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Use the V-DOUBLE Roller Shade provided with DE-MOUNTABLE fixtures for either wood or metal sash. (Patented)



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LUTHER O. DRAPER SHADE CO., Dept. AA1, SPICELAND, INDIANA

THE HIGH SCHOOL THAT HAS EVERYTHING

(Continued from page 60)

Home-Economics Department

One of the features of domestic science training at Euclid Senior High School is a three-room apartment, completely furnished, in which the girls can practice housekeeping in a very practical way. It has a completely equipped kitchen with all modern appliances, a tile bathroom, and one room which is a three-way room—a living room, bedroom, and dining room. Meals are cooked in the kitchen and served in the dining room, and the students receive practical instruction and drill in interior decorating.

In the apartment, the walls are in deep, rich peach color, and there is a leatherette sliding partition which may be used to divide rooms into smaller rooms if desired.

The Industrial-Arts Shops

In the southeast corner of the main floor are the industrial shops for teaching printing, wood-working, metalwork, arts and crafts, mechanical drawing and planing. The area includes a shop library and an office and various rooms for finishing, storage of raw materials and display of completed articles.

The department has at present six instructors and plans have been formulated for a complete pre-vocational as well as apprenticeship type of training. It is expected that the department will ultimately provide training in the leading occupations active in the community.

The Music Department

The music education area embraces a choral room, a band and orchestra room, a broadcasting studio, a library and teachers' office, and 14 individual and ensemble practice rooms. The choral room which is 46 ft. square, tiered, and planned for classes of 100, measures 46 ft. square and

has a stage 24 ft. deep. The band room accommodates an 80 instrument band or orchestra on a five tier semicircle.

Great care has been taken to control the sound for satisfactory music production, by providing linoleum floors and covering the ceilings and the upper halves of the walls with acoustic tile. The natural lighting is by means of glass blocks; for artificial light indirect incandescent fixtures are provided. The practice rooms have glass windows in the partitions so that the two directors may supervise all parts of the area.

The broadcasting studio which is not yet equipped is adjacent to the music area so that instrumental and voice concerts can be transmitted to the entire school.

The Library

As befits the academic reading center of the school the library has been planned and equipped with great care. The attractive room will seat 600 students and will shelve more than 9000 volumes. The special furniture has a blond finish to harmonize with the green and pink wall and floor finish. The light from the large windows is supplemented on dark days by indirect incandescent drop lights.

The Laboratories

The biology laboratory has, in addition to its space for live specimens, a proving room. The latter faces south to insure a maximum of sunlight and has sufficient radiation to assure tropical heat at all times. Infra red lamps are brought close to the plants to accelerate the growth. An outdoor garden is planned to supplement the indoor work.

The Cafeteria

The cafeteria has been designed to accommodate 600 persons at one seating—350 at tables in the principal dining room and 250 at counters. The counters are intended to serve sandwiches, salad, ice cream, soft drinks and hot drinks. A

separate nook is provided as a dining room for the teachers.

The kitchen has been designed with tile walls, a plaster ceiling and terrazzo floor. All utensils and equipment are stainless steel and the greatest care has been taken to assure absolute cleanliness and control of odors. The room is equipped with two large Magic Chef ranges, an electric oven for roasting and an electric oven for baking pies and rolls. A huge double-unit steam pressure cooker for vegetables, two large coffee and chocolate urns, two deep-fat frying units, a large mixer, an automatic potato peeler are part of the equipment. Two walk-in coolers, measuring 6 by 6 ft., are used for the main storage of foods. Along the wall separating the kitchen from the serving counters are ten door refrigerators, three beverage and ice cream cabinets all arranged so that they may be opened either from the kitchen or the cafeteria side for convenience and time-saving.

Swimming Pool

The swimming pool, which has colored tile walls and is lighted under water, has a capacity of 180,000 gallons. The pool proper is 75 ft. long and 42 ft. wide, with five standard lanes. The depth ranges from 4 ft. to 11 ft.

The water is in constant circulation; an outlet at the deep end (11 ft.) and an inlet at the shallow end (4 ft.) show the water in agitation. The water is filtered and chemically treated in tanks just beneath the pool, and returned. A complete renewal is necessary only once each year.

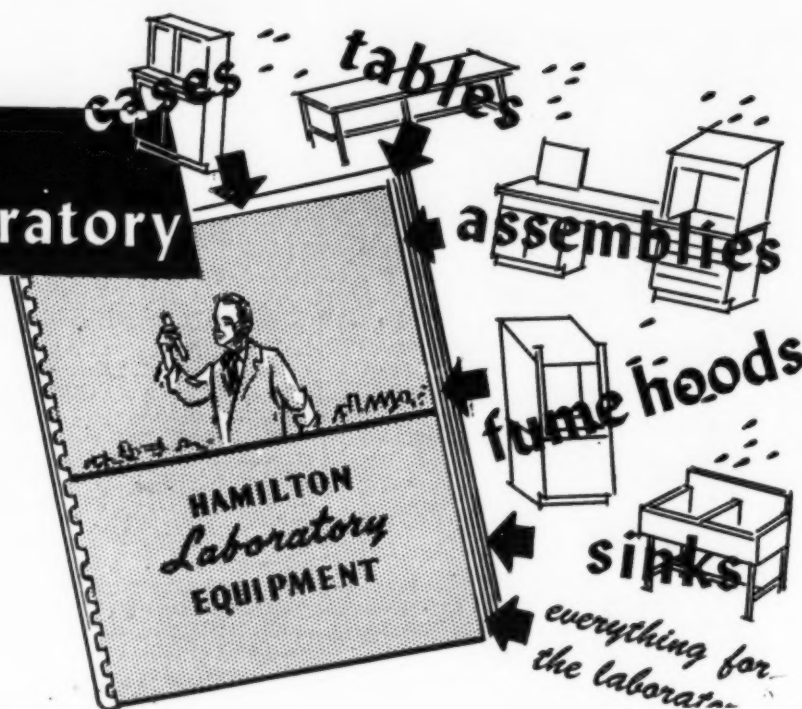
Heating, Ventilation, and Lighting

The heating plant consists of two 250 horsepower steel Keeler boilers fitted with Peabody oil burners. The boilers are so equipped that they can be converted into a gas heating system in a manner of minutes or, if an emergency exists, into coal burning units within 24 hours. The

(Concluded on page 84)

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your new
laboratory**



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Save time and labor...
Preserve chalkboards
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HYGIEIA DUSTLESS CHALK and CHALKBOARD CLEANER

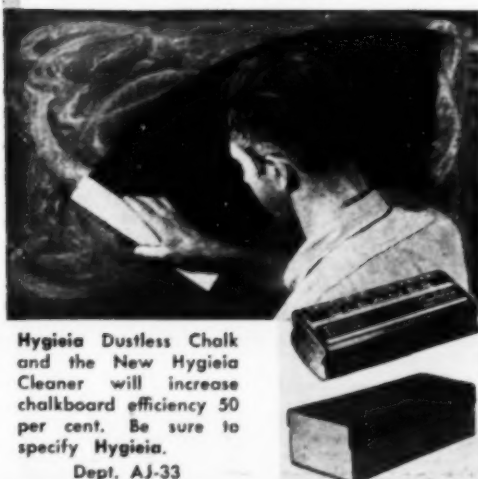
HYGIEIA Dustless Chalk actually preserves chalkboards instead of harming them; also preserves precious eyesight. It will not scratch or mar the surface of the board, as inferior chalks do; will not fill the "tooth" of the chalkboard so that the writing surface becomes slick and shiny.

HYGIEIA Dustless Chalk writes clearly and smoothly — erases easily and completely — is economical and hygienic. It contains no grit, clay, grease, or any harmful ingredient.

Don't neglect your most
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HYGIEIA CHALKBOARD CLEANER

The large Custodian size cleans boards in a jiffy! Washing is unnecessary. Latex side erases chalk marks — leather side cleans the board thoroughly. Saves time and labor—wear and tear on the boards.



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Dept. AJ-33

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Sandusky, Ohio

THE EUCLID HIGH SCHOOL

(Concluded from page 82)

purpose is to anticipate fuel shortages and to adapt the system as may be needed to the most efficient and economical operation. Provision has been made to add two more boilers if necessary.

The entire heating system is divided into three zones with modulated water temperature control. The thermostatic system includes individual room controls as well as outdoor zone controls.

The heating mains are located in a tunnel which connects the boiler room directly with the main wings of the building so that the custodian or engineer may reach any part of the heating lines in a minimum of time and without climbing stairs.

The heating system is a hot water enclosed system with 212 convectors and 67 classroom unit ventilators. For heating the auditorium, cafeteria, and swimming pool there are 12,000 linear feet of copper piping. Storage tanks for 60,000 gallons of oil insure an ample fuel supply for ordinary use.

Classrooms, library, and other instructional areas are fitted with unit ventilators; the auditorium and gymnasium have enclosed heaters; and the toilets, kitchen, cafeteria, etc., have positive exhaust fans.

The lighting of the building has been carefully studied to provide ample illumination of standard quality and intensity depending upon the area and the work carried on within it. The lighting conditions have been further considered by providing wall and ceiling finishes of high reflective quality and by keeping floors, dados, and furniture light in color. Generally speaking, the corridors are fitted with fluorescent lamps and the classrooms and offices with indirect incandescent lights. Industrial type fixtures are used in the shops, etc.

Painting, Decorating, and Color Scheme

The complete color plan was worked out by Clyde Merrill, color psychologist and consultant. Each floor has its own colors, so far as the trim is concerned, as well as the plastered walls. On the first floor sand color predominates; on the second floor stratosphere gray is the main hue; and on the third floor, eye-est green. In the cafeteria the dominating shade is rose; in the east rooms, yellow; and in the west rooms, green. The trim in the gymnasium is green, and in the auditorium green and aluminum.

Doors, Floors, and Windows

All exterior doors and the doors opening on the lobby are of aluminum. The other interior doors are hollow metal frames with wood covering except the laboratory doors, which are metal.

The windows in classrooms where motion pictures are shown have black cloth, lightproof shades; others have plain shades.

Careful attention has been given to the control of sound within the building to provide quiet in the classrooms and other instructional areas and to assure ample hearing qualities and exactly the right factor of reverberation in the auditorium, music rooms, etc. All classrooms have acoustical ceilings carefully installed with mechanical fastening to insure against the falling of panels. In addition to classrooms and music rooms, all offices, the library, and the cafeteria have acoustic ceilings. In the gymnasium, the swimming pool, the locker rooms, shops, stage, and boiler rooms, precast Rackel Porax slabs have been provided for acoustic control and to prevent sweat. The auditorium walls from the wainscoting upward are treated with 1-in. thick acoustical units, measuring 24 by 24 in. The ceiling is plastered over a 3-in. rockwool insulation immediately under the roof covering.

Members of school boards and school executives, from as far away as Portland, Ore., who visited the school, have agreed that Euclid has a building second to none in secondary education, measured by modern criteria. Dr. Hissong,

State Superintendent of Education in Ohio said: "This is the finest building I have yet seen in this state," and Governor Frank Lausche was equally impressed.

PAUL BACON PASSES ON

Paul Valentine Bacon, editor-in-chief of Allyn and Bacon, publishers, died Wednesday, November 9, 1949, at his home in Wellesley, Mass.

Born in Syracuse, N. Y., February 14, 1876, Paul Bacon was the son of George Andrew Bacon, one of the founders of the firm Allyn and Bacon. Upon being graduated from Harvard University with honors in 1898, Mr. Bacon joined the newly established Chicago office of the firm as field and editorial representative. In 1912 he moved to Boston where he assumed the position of associate with Mr. Allyn in the editorial department, becoming editor-in-chief in 1922, at the time of Mr. Allyn's death.

Mr. Bacon was the author of numerous German books, secretary of the Harvard Class of 1898, a member of many social organizations, and a keen sportsman.

He is survived by his daughter, Mrs. Donald Johnson, and his son, Paul V. Bacon, Jr.

REVISE SPECIFICATIONS FOR SCHOOL FURNITURE

To stabilize costs and to effect wider competition, the New York board of education has modified its standard specifications for the purchase of school furniture. Recommended by Commissioner Charles J. Benschly, the new standards will result in an estimated \$400,000 annual saving.

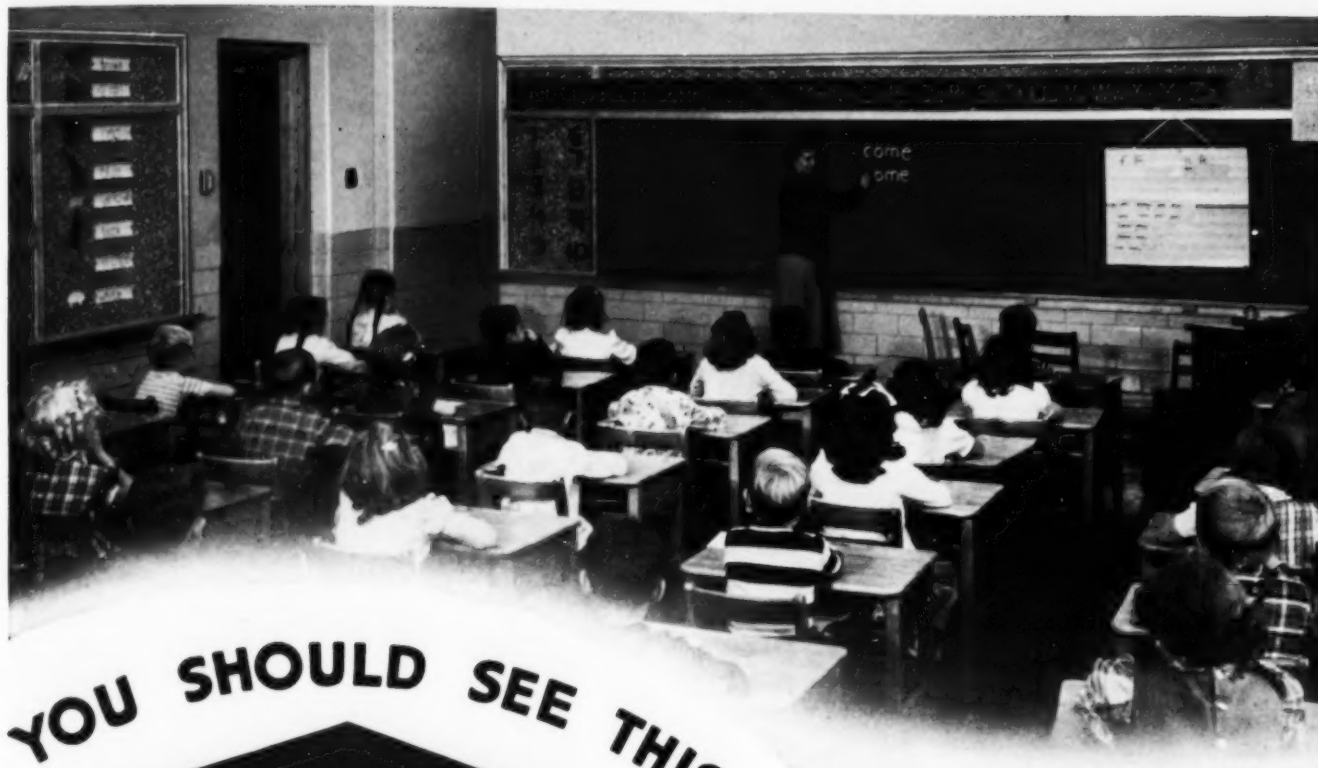
The change in specifications, authorized after careful study by the technical and professional staffs of the board of education, resulted from Mr. Benschly's objection that former specifications were "antiquated" and contained "custom-made" features which limited bidding to a small number of concerns. Under the new specifications, furniture is "keyed" to the industries standard, assembly-line products which make it possible for all manufacturers to submit bids. Recommendations for the award of contracts will be made through a Committee on Evaluation and Selection, made up of school personnel, on the basis of suitability of the items as determined by tests identical to those employed by recognized testing laboratories.

For several years specifications had been based on the attractive features of products manufactured by a limited number of concerns. Other firms have hesitated to enter bids because production of custom-design items would have conflicted with the manufacture of line-production items, and would have entailed the installation of costly supplementary machinery which would seldom be utilized at full capacity. Under new specifications, successful bidders will be able to maintain a constant production output.

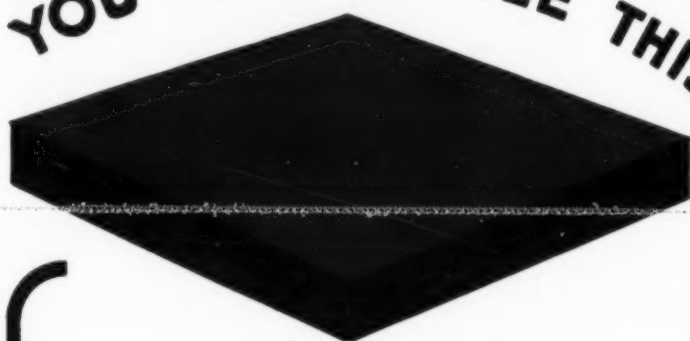
Stabilization of production costs will be maintained by a steady flow in production, and the companies will be able to make maximum use of equipment, experience, and resourcefulness in designing and scheduling production. The inclusion of assembly-line items will give concerns beyond the metropolitan area an opportunity to bid. Each of these firms will be sent an invitation to bid together with a copy of the specifications.

Specifications have been arranged to indicate the unit bid price for each item of furniture, the total price for the number of units of each item required, and a combination bid price for a group of similar items.

Jules L. Haut, construction consultant to the board of education, is rewriting the specifications under the over-all supervision of Dr. George F. Pigott, Jr., assistant superintendent of schools in charge of the Division of Housing and Business Administration. Louis J. Cook, head of the Bureau of Supplies of the board of education, Mr. Haut, Harold D. Hynds, head of the Bureau of Plant Operation and Maintenance, Eric Kelbon, head of the Bureau of Construction, and Dr. Pigott will comprise the Committee on Evaluation and Selection.



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For visual aids in education, write for your copy of "Blackboards and Bulletin Boards"

EASY to write on, easy to erase and best of all, — *easy on the eyes of the school children who use it.*

Natural Slate Blackboards have often been imitated, but never has science been able to develop a product that will compare favorably with the "eye-ease" of soft, velvety white chalk on "Pyramid" Slate Blackboards.

Natural Slate Blackboard will never shrink, curl or peel because it is a stone product, mother nature's own. Your first cost is the only cost, for actual usage has proven that "Slate Outlasts the Building." Play safe and specify "Pyramid" Natural Slate Blackboards.

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Dep't. D

The Relation of Architects and Educational Planning Experts

The Committee on School Buildings of the American Institute of Architects, as of October 5, 1949, adopted a report on the relation of the architect to the long range planning of schools. The statement in full reads as follows:

Report of the Committee on School Buildings on the Architect and Long Range Planning for Schools

As a result of the amount of comment that has been aroused concerning the Institute's statement of policy with respect to the architect's position in long range school planning, this Committee submits the following as a further clarification of its thinking in the matter:

It is the stated intent of the Institute, as recommended by the Committee on School Buildings, to assist the profession of architecture in its effort to produce better schools. In this respect the Committee believes, among other things:

1. That better schools can be realized through comprehensive long range planning and programming
2. That a means of comprehensive planning should be available in some manner to all school districts regardless of size or financial condition
3. That these objectives can be accomplished in a democratic manner through the leadership of private architects
4. That the Institute by furnishing architects with the proper support and information can materially accelerate the realization of these objectives.

The general application of comprehensive and sound planning in the fields of education, public health, housing, etc., long has been overdue. In only relatively recent years has planning begun to assert itself in these fields under the leadership of architects and others.

With the exception of some large urban areas, few school districts today are able to avail themselves of the benefits of sound planning with the means which are at their disposal. Also, the number of districts that benefit to a degree from educational planning by the use of educational consultants is relatively minor in relation to the entire picture. In view of this, the concept of school planning should not be separated from that of comprehensive planning—be treated as a mystery—nor reserved for the all-knowing judgment of a select and titled few. In our opinion, this only tends to stifle its general application.

In order to broaden the availability of planning to school districts, we believe planning should be encouraged generally at the community level under the best available leadership regardless of title. It should be encouraged in this manner even if the situation demands that the superintendent, the faculty, and the school board determine educational policies and requirements without the aid of a paid professional educational consultant.

Therefore, the Committee believes that what is needed is a better understanding and more vital leadership in the field of comprehensive school planning rather than merely a concentration of attention on a particular phase of the problem; i.e., the educational requirements. In consideration of this, it is readily understandable that experts in particular phases of school planning will, due to a misunderstanding of the broad aim of the Institute, question it as indicative of an encroachment on what they feel to be their sole prerogative.

With this broad concept in mind, it appears then that the question most often raised, as to whether the architect is or is not qualified to specify educational requirements, is minor and beside the point. Obviously, he is not, and does not imply that he is qualified in this field. There is no mention made in the policy of the Institute, nor is there any inference intended, that architects should be encouraged to make educational surveys or determine educational requirements for school building programs. This unquestionably should be reserved for qualified educators.

We cannot agree, however, with the contention that the services of an educational consultant will take the place of over-all long range planning nor with the contention that he is more qualified to do over-all long range planning than others. It must be admitted, nevertheless, that under the present situation there is a tendency toward the general belief that if an educational consultant is retained that, regardless of the type of planning or the person responsible for the design, superior results will be more or less assured in the planning of a school building program. With this we also cannot agree since experience does not seem to bear this out in its entirety. As matters stand, the entire question does seem to indicate the failure of educational consultants to grasp the comprehensive nature of planning and the fact that educational specifications are merely a part of the whole process.

The existence of a critical need for comprehensive long range planning for schools is possibly best manifested in the completed educational surveys of record. These surveys in practically every instance include material, advice, and recommendations on subjects clearly beyond the scope of educational requirements and specifications and the background and training of the parties who prepared them. On the other hand, we know of no documented evidence of record in which architects have determined or recommended educational policies or requirements, although we do not deny that this could be a possibility. In this respect, we believe that an impartial evaluation of the situation concerning school planning will reveal not the encroachment of the architect into the field of educational planning and consultation but the definite encroachment of the educational consultant into the field of architectural and over-all planning. In view of this, the Committee



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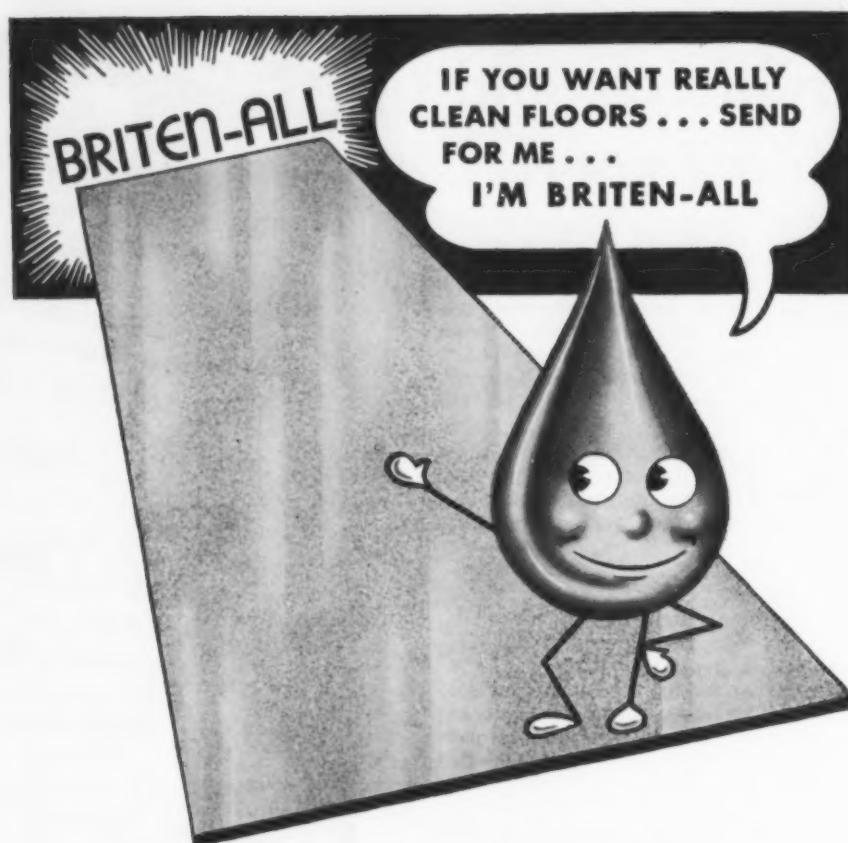
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believes that the profession should not attempt to explain the architect's position in the matter of school planning, but should assert his position as one necessary and vital for accomplishing the desired objective of making available comprehensive planning to the largest possible number of school districts in an attempt to provide better schools.

The educational consultant has evolved as a professional adviser to assist school superintendents and school boards in analyzing, evaluating, and determining educational policies and requirements. He is in reality one with the client when the position requires a statement of a program of educational requirements for a school building program. In this position he is also qualified to assist the client in the evaluation of solutions to the problem prepared by the architect. This role

of educational consultant in school planning is as unassailable as is the position of the architect, and one will not usurp the position of the other if the true relationship of the various interested parties is clearly understood and respected.

Comprehensive school planning and programming, to be practical and useful, involves more than expert consultation on educational requirements alone. It involves expert consultation on growth and population trends; finance; taxation; public health; community activities; economics of building; zoning; traffic distribution; site studies; space organization; civil and structural engineering; fire safety; building codes; landscape design; properties of materials; maintenance methods; evaluation of physical properties; public utilities; property appraisal; public laws and legisla-

tion; color psychology; scientific techniques in visual, audio and climatic environment; graphic arts; and documentation, among other things.

In addition, of necessity sound planning requires a co-ordinator of all information resulting from these aspects of the problem relative to the desired aims. A co-ordinator that is also capable of evaluating, organizing, and documenting graphically this information into a clear and concise statement of objectives, facts, conditions, and means for use as a practical plan. This role unquestionably must be assumed by someone regardless of title, and we believe that the architect because of his background and training can do this most ably and judiciously.

It is only natural that, as in other fields, the consulting experts at first will manifest a reluctance to co-operate as part of a team under able leadership due to the fact that they have been used to a very singular prominence in this field for so long.

It appears, therefore, that the architect's role needs clarification not as an expert in a particular of the problem, but as a co-ordinator of the whole. This is unquestionably a service that he should be qualified and able to perform and be compensated for over and above his fee for building plans.

Since architects of necessity are associated with practically every school project regardless of size, and are responsible for the ultimate interpretation of the problem, we believe that they are in a position to initiate and assume leadership in a general school planning program. By assisting and encouraging the architect in this role, we also believe that more and better planning will be undertaken, resulting in better schools. The fact that most architects are not equipped or experienced in this work does not detract from the premises stated above. It is, however, recognition of this fact that justifies the aims of the Institute as outlined in their stated intent.

NOTE: The original statement of policy of the Institute was analyzed editorially in the JOURNAL for July, 1949, pages 48-49. A further discussion of the problem in the light of the attitude and action of the National Council on Schoolhouse Construction at its Indianapolis convention in October, appeared on pages 50-51 of the November issue of the JOURNAL. — Editor.

WILMINGTON BUILDING PROGRAM

The Wilmington, Del., board of education has approved a plan of co-operative planning to facilitate the 1950 building program. Invitations will be sent to members of the staff and to lay citizens inviting them to serve on the planning committees which will consider the type of educational program suitable for students and parents in each community concerned. The committee will consult with the architect; list in detail the services necessary to operate the program; and prepare recommendations.

Although all final decisions regarding the building program will be made by the Building Commission, recommendations of the planning committee will be carefully considered. Before the recommendations are passed on to the board of education, a co-ordinating committee composed of divisional directors, the business manager, the building engineer, administrative assistant, and the superintendent will review them.

The school units included in the program are three elementary schools and a Negro elementary and Negro junior high schools.

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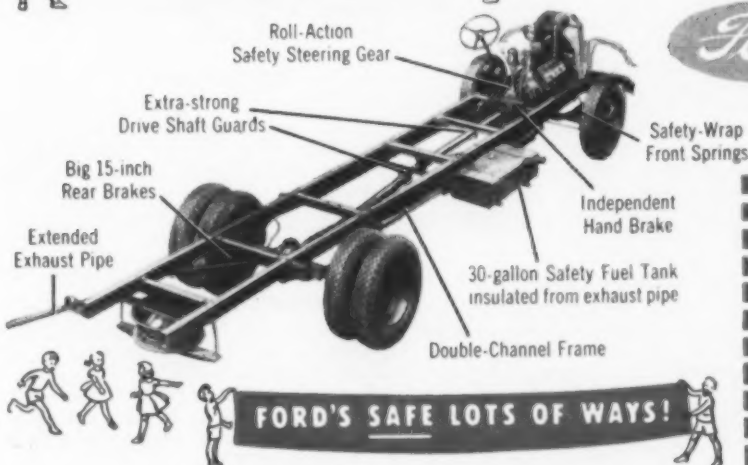
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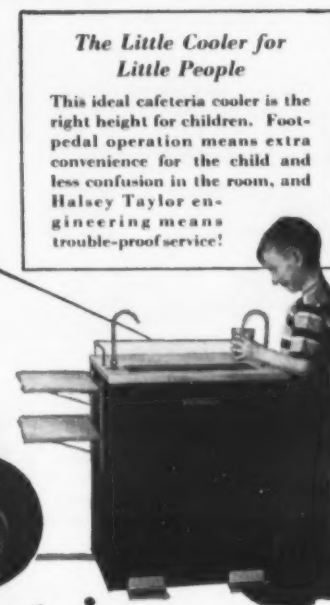
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The Little Cooler for
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This ideal cafeteria cooler is the right height for children. Foot-pedal operation means extra convenience for the child and less confusion in the room, and Halsey Taylor engineering means trouble-proof service!

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HALSEY TAYLOR Drinking Fountains

SCHOOL BOARD
CONVENTIONS

TEXAS BOARDS ELECT

The Texas State School Boards Association at its annual convention in Fort Worth, November 24 and 25, elected the following officers for 1950: Dr. Ray K. Daily of Houston, president; W. I. Kocurek of Austin and Mrs. J. A. Gooch of Fort Worth, vice-presidents; Mrs. O. D. Weeks of Austin, secretary-treasurer.

CONNECTICUT PASSES STATE AID BILL

At the annual meeting of the Connecticut Association of Boards of Education, held at New Britain, Conn., December 2, 1949, Governor Chester Bowles announced the passage of a state aid bill to help municipalities with school building programs. An estimated \$1,000,000 has been allowed for school construction.

Under the new law, every city and town in Connecticut may build schools within the next 10 years, with the state paying one third of the cost. The advantages of the long range program permit logical and careful planning of schools plus reasonable assistance in providing adequate facilities which will result in better educational facilities and a definite economy promising better educational opportunities for children of the state. The new bill will make it easier for cities to modernize and repair schools since the Legislature decided on a sliding scale plan whereby the "poorer" towns may receive up to 100 per cent of the building cost.

Four fundamental problems facing school administrators were discussed at the convention by Dr. Finis E. Engleman, commissioner of education. These problems are: (1) the adjustment of curriculum to meet constantly changing educational needs, (2) the attainment of public sup-

port, understanding, participation, and interest in school planning, (3) the advancement of public understanding as to the financial problems facing school boards, and the corresponding increase in budgets, and (4) the employment of sound economy and careful planning in construction costs.

Edward D. O'Brien, president of the New Britain board of education, was re-elected treasurer of the association; Roger H. Motten, Weathersfield, was re-elected president, and Sigmond Adler, Rocky Hill board of education, was elected secretary.

INDIANA SCHOOL BOARDS'
ASSOCIATION MEETS

The Indiana School Boards' Association held its annual meeting November 30, at the Claypool Hotel, Indianapolis.

The Honorable Henry F. Schricker, Governor of Indiana, was the luncheon speaker. Mrs. Joseph W. Walker, president of the Indiana Congress of Parents and Teachers, spoke on "P.T.A. Fundamentals"; Dr. Paul W. Seagers, school building consultant, Indiana University, discussed "Trends in School Building Construction." "The Importance of a Good Public Relations Program to a School Board," was discussed by panel members: Norman K. Durham, president, Board of School Trustees, Muncie; Mrs. Margaret Rosencranz, member, Board of School Trustees, Evansville; and William H. Stern, vice-president, Board of School Trustees, Gary.

At the business session, O. H. Roberts, Jr., Evansville, was elected president; C. V. Haworth, Kokomo, secretary-treasurer.

PHILADELPHIA RAISES SALARIES

The Philadelphia board of education has approved a \$200 increase in the maximum salaries for public school teachers and a flat 5 per cent increase for all nonteaching employees.

The raises will be financed through a ten-cent increase per \$100 valuation in the real estate tax, and a new tax on business receipts. The taxes,

effective January 1, were levied under authority granted the board by state law.

Between January and September, about 3000 classroom teachers will receive the additional \$200 a year. Another 1000 will receive from \$125 to \$175 to bring them up to the new ceilings, on a somewhat revised three-point salary schedule. The remaining 3000 teachers will advance eventually to the new maximums, that are attained mostly by \$200 yearly increments over a nine-year period.

These new maximums, all upped \$200, are: \$3,800 a year for teachers with standard certificates; \$4,200 for the four-year college or bachelor degree; and \$4,600 for the master's degree or beyond.

New teachers will start at \$2,400.

School principals will get \$300 advance in the maximums. Their new salaries will be: elementary, Class A schools, \$5,700; elementary, Class B, \$6,300; junior high, \$6,800; and senior high, \$7,300.

There are no raises for those in higher administrative positions than principals. About 600 school secretaries, who also are covered by the salary schedule, will get increases.

TO CONSERVE WATER

The New York City board of education has ordered the closing of all school pools from December 16 to January 9 as a means of conserving water. The shower rooms in junior high schools and elementary schools have also been closed. The board of education is working out a careful, permanent plan for the conservation of water.

SPONSOR EUROPEAN TOUR

Sponsored by the N.E.A., the A.A.S.A., Yale University and Michigan State College, 60 educators under the leadership of George F. Kneller, Research Associate in Education at Yale, will visit 12 countries in Europe during a six-week tour, extending from March 18 to May 1, 1950.

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Planning, State of Calif.,
Dept. of Education, and
John Lyon Reid, M. Arch.
American Institute of Architects

The emphasis of this book is on the group effort of the school planning-building program. Included is a discussion of everyone involved in the planning of a school from the pupil to the architect, even including the taxpayer. There are sections covering the following: Determining the Need for a New School; Master Planning for an Entire District; Preliminary Planning of a School Plant; and How to Use the School. This book is of equal importance to the architect as to the superintendent of schools, school boards, principals, engineers, and all others involved in schoolhouse planning.

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Comprehensive in treatment, informal in style, profusely illustrated, it promises to be the indispensable handbook for both school administrators and architects.

With the suggestions presented in "Schools," by co-authors Perkins and Cocking, you will be able to transfer the idea of a schoolhouse from "a pile of congealed community pride" to a modern educational plant in which present-day needs are adequately met. Truly, here is a new book you cannot afford to miss. Take advantage of Reinhold's 10-day free examination offer, and you will agree with Architectural Forum, which recently stated, "Here is the best general book so far on modern U. S. schools."

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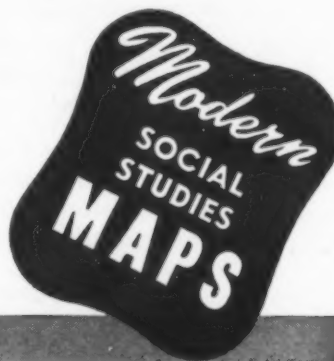
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SEGREGATED BIDS VS. GENERAL BIDS

(Concluded from page 33)

multiply the detail on the change order and processing on the job creating more paper work.

Another architect pointed out that where segregated bidding is used, the architect usually requires an additional fee of 4 per cent on the segregated work.

Quotations taken from the letters from the school administrators are used as follows with the names of the school district being omitted:

Generally all the subcontractors are local bidders. — *Unified School District.*

... Regarding contracting with subcontractors it is the practice in the county that a general contractor be held liable for all work on a contract and that he in turn employ subcontractors. This is the practice which has been approved by our District Attorney — *County Schools.*

Our experience, plus investigations with architects and some of our school districts, indicates that for the average school district, general bids have proved to be more satisfactory than segregated bids. The feeling in this area is that with segregated bids, it would almost be necessary for the district to employ an engineer. Additional help would have to be employed to take care of the dealings with several agencies, rather than with the general contractor. Our considered opinion is that general bids are as economical as segregated bids could be, with the general con-

tractor assuming all responsibility for the subcontractors. — *County Schools.*

... The general contractor is interested in submitting the lowest bid, so consequently he will shop around for bids from subcontractors, which produces a larger range of competition than would be submitted by segregated bids. — *City Unified School District.*

General bid is simpler to administer because it avoids "passing the buck" and one contractor is responsible. — *Public Schools.*

There is a good likelihood that you may receive lower bids (in using segregated bids), and the only objection that I know of to this scheme is that, (1) it increases the load on the architect; and (2) unless preparations are very carefully made, it sometimes leaves areas that seem not to be the responsibility of either the general or the special contractors. — *Unified School District.*

It is generally true that if bids are taken two ways segregated and general, the sum of the segregated bids will be less. However, it is my strong belief, based on 15 years as a contractor and twenty years in designing buildings and supervising construction, that the end result in total cost (including extras and necessary cost of supervision), speed, workmanship, and satisfaction, favors the general contract program — *Director of Architectural and Engineering Services.*

... Favor contract (regular form) made with each segregated contractor for his particular work. — *City Schools.*

I believe that the general bids are the better of the two. This is only a personal opinion. (*Superintendent*) — *County Schools.*

We are told that the basis of the Grand Jury's recommendation was that it was difficult to place over-all responsibility and to co-ordinate the various types of work and that segregated bid type of contract was resulting in poorly constructed school plants. — *County Schools.*

I am taking the liberty of making the following observation. The construction of a school building without the authority of a general contractor would make it extremely difficult to co-ordinate the work of subcontractors. The board of education would almost need to assume the role of the general contractor in the acceptance of segregated bids for which they have neither the time nor the qualifications. ... While we have never used segregated bids, I am definitely opposed to it because there are so many foreseeable problems which the school board and the superintendent would need to face. (*Superintendent*) — *City School District.*

... During the past 18 months we have had very satisfactory experiences in most schools with general bids in that there have been many bidders and the competition among the general contractors has been quite sharp. In fact, we have noted more tendency among the general contractors to pare down their profit and overhead than has been the case among subcontractors. — *County Schools.*

... One of our architectural firms proposed that we use segregated bids on a gymnasium but under their contract with the district which was given to them several years ago, they would receive an additional 2 per cent for supervision of the work on that basis. It was our opinion that, while there might possibly be a slight saving on a segregated bid basis the trouble we would run into, in effect becoming general contractors ourselves, would offset any possible economic advantage. It has been our experience that having first class inspection on the job is very desirable and we have not felt that the inspector was in a position to serve also as general superintendent. — *Unified School District.*

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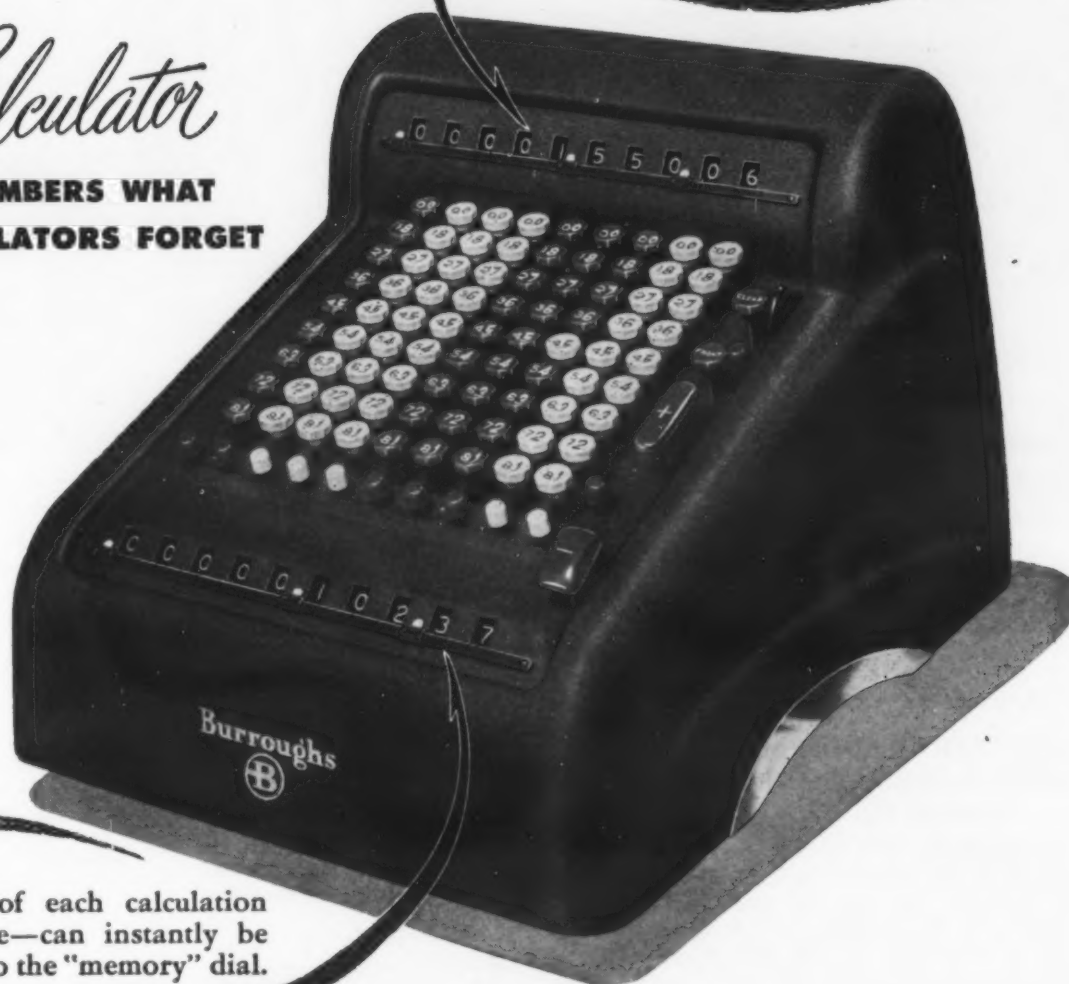
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MOVABLE SCHOOLROOM MAY SOLVE WEST'S BIGGEST SCHOOL HEADACHE

(Concluded from page 61)

work and student efforts. Beneath the windows are built-in cabinets, shelving, and storage drawers. Along one of the short walls is a six-door walk-in wardrobe. On one side of the wardrobe is a teacher's closet and on the other end, in balance, is a glass-enclosed bookcase with filing drawers beneath.

Two exit doors at opposite ends of one long wall, provide full safety for the children. Heating is provided by individual oil heaters, but heat from the central heating plant of the adjacent school can be provided in the event the movable rooms are to be left any length of time. Each room is large enough to accommodate 30 pupils.

The portable rooms are popular with teachers and students. At Franklin Grade School in Tacoma where Annette Merklein teaches kindergarten in the portable room, she reports other teachers in the older, less attractively designed main building are envious of the cheerful portable classroom.

Interesting are these observations of teachers using the portables. They say they have no feeling of being detached or disconnected from the rest of the school. Only inconvenience is the fact that students must go to the main building for toilets.

The six portable rooms were built on contract for \$41,388, at an average room cost of less than \$7,000. The portables can be made permanent by installing permanent foundations

and providing reasonable care and maintenance. The portables may be consolidated to form a permanent school in a new district when their present emergency use is over.

Tacoma's movable schoolroom is proof that temporary school facilities can be provided at low cost without sacrifice of conveniences or necessities.

AN ELEMENTARY COMMUNITY SCHOOL

(Concluded from page 56)

each room, with a take-off from the floor in each wardrobe.

The radiant heating system as installed was selected as the most economical type for the prevailing climate conditions and has proved quite satisfactory in other schools erected by the architect. The system consists of approximately 10,000 ft. of wrought iron pipe in four zones, laid in the concrete floor throughout the building. The system has been designed for future individual classroom control and for extension to future classrooms to be erected on the north.

The boiler which is coal burning and stoker fired provides ample circulating hot water.

The artificial lighting throughout the building is hung, continuous fluorescent lamp lighting.

Close co-operation with the school authorities, whose advanced thinking and interest was utilized in the design of this modern structure, made possible this unusual solution of a difficult problem at a cost of \$176,000 or approximately 78 cents per cubic foot.

BUS TRANSPORTATION IN MASSACHUSETTS

Five former Massachusetts governors, all Republicans, have issued a joint statement expressing opposition to an initiative petition which seeks the repeal of a 1938 statute providing for the transportation of private and parochial school children at public expense.

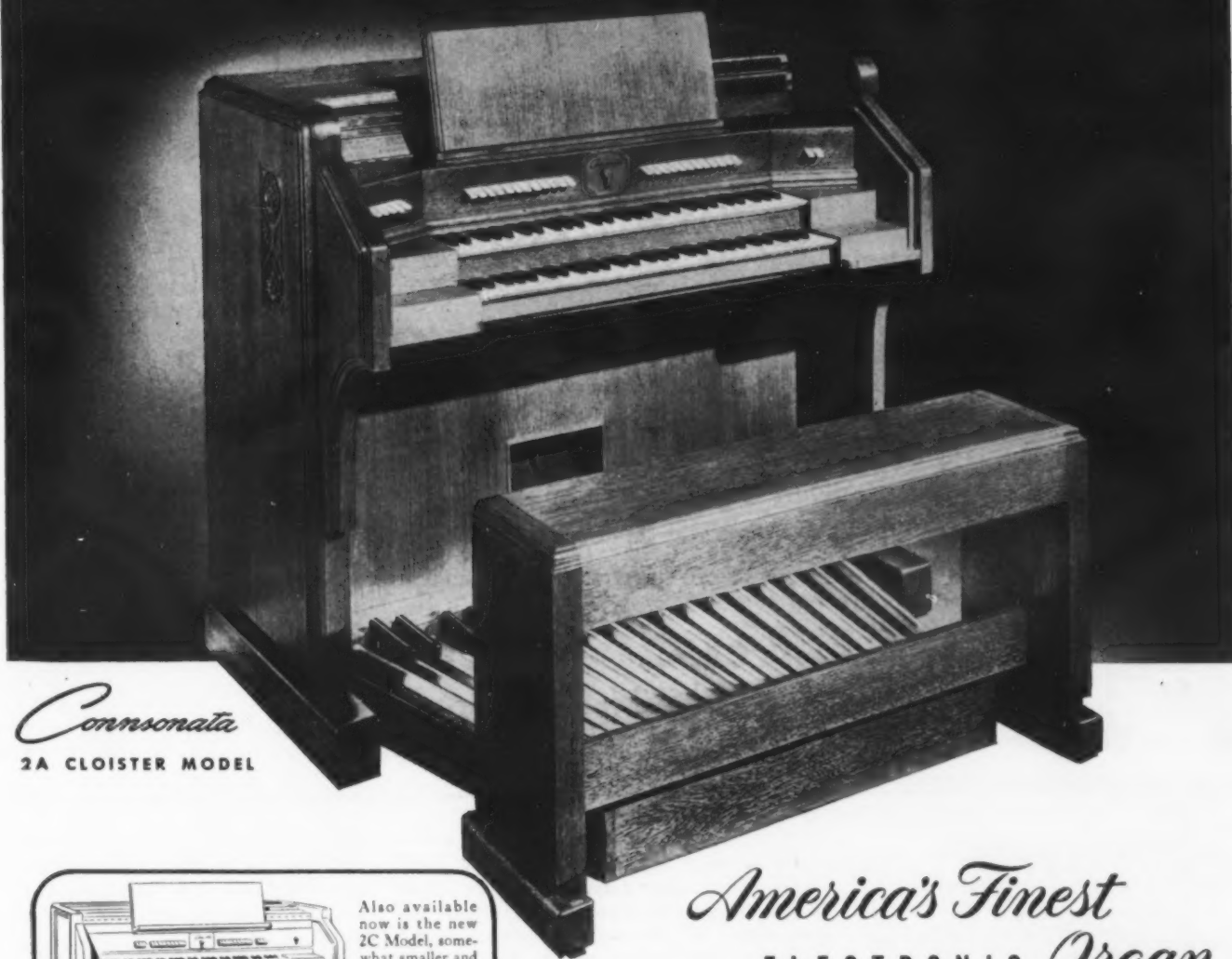
Filed with the attorney general in Massachusetts in July by 15 Protestant clergymen of Greater Boston, the petition is a preliminary legal step toward giving Massachusetts voters the right to decide the question. Sponsors of the petition must obtain 20,000 signatures to have the proposal placed before the 1950 legislative session. If rejected by the legislature, 5,000 more signatures must be obtained to put the issue before the voters at the 1950 election.

"The principle of the present law," the statement said, "has been upheld by the United States Supreme Court which ruled that it does not bear upon the separation between Church and State." The five former governors said they hoped the petition would be dropped in the interest of keeping religion out of politics.

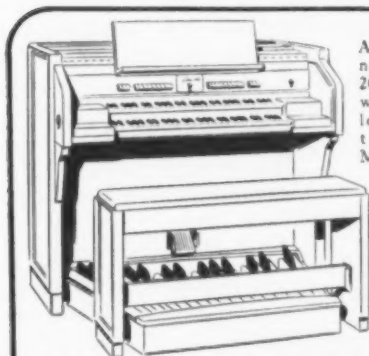
The Massachusetts Congregational Conference has disassociated itself from the referendum movement. "We feel that the transportation issue is charged with complex social and moral problems which cannot be solved by this limited approach," an Association statement said.

Meanwhile the Republican State Committee has placed before the Massachusetts Supreme Court the question of whether the initiative petition is not in conflict with the Constitution of Massachusetts. Under the present state law cities and towns may provide transportation for children regardless of whether they attend public or private schools. Repeal of the law would restrict transportation at public expense to public school children.

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ARMISTEAD GARDENS ELEMENTARY SCHOOL

(Concluded from page 54)

developed in accordance with Baltimore's policy of designing to prevent serious erosion. Individual approach has been provided to the two kindergarten rooms, Figure 4.

Other pertinent data are summarized below:

Construction Data

General construction is fire resistant with steel frame of light standard sections and junior beam, simple latticed truss for long spans. Walls are of hollow masonry with a 4-in. dead air space tied across with welded truss-form galvanized reinforcing steel shaped so as to prevent capillary movement of water from the outer to the inner wall. Floors will be a reinforced waterproofed concrete slab on grade and insulated against heat loss. Ceilings will be treated with acoustical material throughout. The roof will be of 2-in. poured-in-place gypsum poured on insulating form board which will be left in place. The gypsum slab will be covered with a 20-year type of built-up roofing, dead level. The covering of the roofing of the corridor and service and auxiliary rooms opposite the classrooms will consist of white granite or limestone chips in order to reflect maximum light through the clerestory windows and to minimize the absorption of heat.

The interior finish will consist of glazed terra-cotta units to wainscot height in halls,

cafeteria, gymnasium, etc., and to ceiling height in toilet rooms with painted block above wainscot line. Asphalt-tile floors will be used in all classrooms and similar spaces. The gymnasium will have a five-quarter maple floor. The main lobbies will be finished with terrazzo floors and the corridors and other spaces will be finished in hardened metallic aggregate colored concrete. All interior doors will be flush-panel wood with two-hour fire rating (fireproof core). Exterior doors will be of aluminum or steel.

The fenestration will be intermediate projected steel sash.

The ventilation will be by unit ventilators, by gravity, and bilateral fenestration.

It is expected that the plans for this building, having an estimated cubage of 1,081,925 cu. ft., will be completed by the middle of January, 1950, and that construction will begin about the middle of February.

NEW TYPE CALIFORNIA JUNIOR HIGH SCHOOL

(Concluded from page 47)

mentioned was purchased and a 32-acre site for a new senior high school, to be erected within the next few years.

The junior high school which is being enlarged has an enrollment of 675 students and the adjoining Fremont elementary school houses 756 children. One reason why the junior high school buildings are being erected is because the existing structures—all of

which eventually will be replaced—do not conform to the state's anti-earthquake construction law.

Charles Coil, Jr., is president of the Antioch board of education; Dr. Henry R. Spiess is superintendent of schools; Albert Lynde, principal of the Junior High School; Kump and Falk, San Francisco, were the architects. Photographs by Roger Sturtevant, San Francisco.

PERSONAL NEWS

► CHARLES MCINTOSH, superintendent of schools of Platt County, the oldest superintendent in Illinois in point of service, died recently after many years of prominent service in schoolwork.

► WINSTON D. BROWN, superintendent of schools of Waukesha County, has been elected president of the Wisconsin Education Association. He is 39 years old and one of the youngest persons to be elected to that post.

► MISS EDITH A. LATHROP, 75, former United States Office of Education specialist, Washington, D. C., died November 28, after a long illness.

► According to an announcement released November 29, 1949, by Federal Security Administrator Oscar R. Ewing, DR. BESS GOODYKOONTZ has been appointed Associate Commissioner in the Office of Education, Federal Security Agency, Washington, D. C.

► SUPERINTENDENT W. T. WHITE, Dallas, Tex., has been elected president of the Texas Association of School Administrators. E. T. ROBBINS, superintendent of Alamo Heights, San Antonio, has been elected vice-president; FRANK RICHARDSON, Henrietta, re-elected secretary.

► WILLIAM D. WOLFE, superintendent of the Atchison city schools for the past five years, was unanimously elected head of the Lawrence, Kans., city schools at a yearly salary of \$8,800.

ADULT SCHOOL BUILDING NEEDS OF SAN FRANCISCO—III

(Concluded from page 44)

The three regular classrooms are necessary for instruction in speech, for play reading, and for other activities which will engage large numbers of those enrolled. The rehearsal halls are necessary unless participation is to be limited. They should be equipped with stepped platforms so that chairs can be used for shows produced on a "pent-house theater" basis.

Quite obviously, the little theater must be located on the street level, and undoubtedly a small lobby will be necessary between the theater and the street. The stage also must be accessible from the street level for handling scenery and properties. Doors must be large enough to handle large flats.

The above discussion shows the obvious advantages in having the theater program located in a building which also houses adult classes in crafts and homemaking since there can be a close integration of such activities as basic design, costume and scenery design, costume making, painting, and so on.

6. Small Auditorium

In addition to the little theater described, the adult program has need for a small auditorium seating between 200 and 300, available every night for forum programs, discussion groups, and lectures. Since the California State Board of Education regulations limit the size of forum groups, a larger room than this is not needed.

Nothing other than a raised platform for the speakers and leader need be provided, but this platform should contain facilities so that a stove can be brought in on wheels and hopped up for demonstration cooking and nutrition lectures before large groups. Also needed for the same purpose is a sink, with running water, which can be masked off in a cupboard or behind a screen.

It would be well if facilities could be built into the auditorium for broadcasting the programs presented. Seats will have to be elevated, and the room should be kept in proportion, being neither unnecessarily wide nor long.

The building needs of adult education in San Francisco, as outlined in the three articles which have composed this series, if implemented more or less in the form proposed, would guarantee to the community a continuation of the same sort of educational opportunities for adults which have become such an important factor in the cultural life and mental health of the community. Such facilities would guarantee the continued flexibility that is required if adult education is to meet the educational needs of community agencies, of neighborhood groups, of parent organizations, of clubs, of commercial firms, of public service bodies, and of every individual who wants to continue learning throughout life.

EQUAL EDUCATIONAL OPPORTUNITIES FOR BATON ROUGE, LOUISIANA

(Concluded from page 43)

areas of the South there have been developed, or are being developed, long-range plans of action. These plans will proceed as rapidly as possible; being governed by the prevailing conditions of funds available, the growth and

development of public responsibility, and the recognition that the public school systems are an integral yet integrated part of a larger over-all program of "general welfare" for the good of all the people of the South. The progress which has been made in the state of Louisiana in the past five years is typical of the tremendous advances which have been made in the South in behalf of education for all youth. Notable among its achievements are equal salaries for both whites and Negroes (single salary schedule: \$2,400 minimum with B.A. or B.S., and \$2,500 minimum with M.A. or M.S.) with teachers of equal qualifications and training serving in Negro and white schools at both the elementary and high school levels and in both rural and urban situations.

Many educators in the South are looking forward to the day, within the next decade, when the racial issue will no longer be bantered about as the South's number one problem.

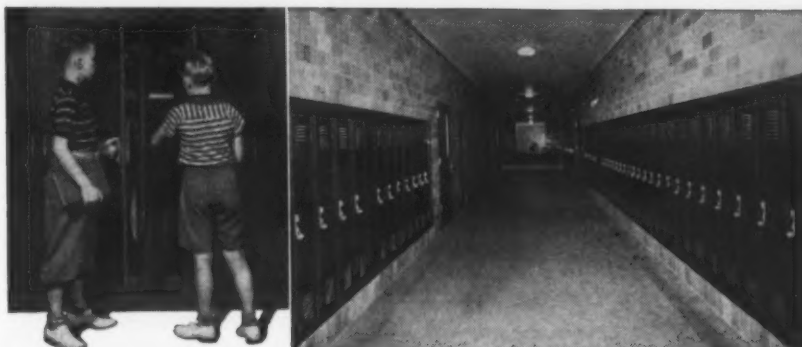
PERSONAL NEWS OF SCHOOL OFFICIALS

► The U. S. Office of Education announces the appointment of Dr. ERICK L. LINDMAN, Olympia, Wash., as chief of school finance in the Division of School Administration.

► Dr. ERNEST E. COLE, 78, former Commissioner of Education for New York State, died November 19, at Bath, N. Y.

► ROBERT A. MACLELLAN has been re-elected to the position of Commissioner of School Buildings at Boston, Mass.

► J. PRITCHARD has been elected president of the board of education of Richmond County, Ga.



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A wide range of Desk models and Table sizes gives you a selection of beautifully designed equipment—built for years of durable service. Full information on request.

ALL-STEEL EQUIPMENT INC.

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DS Files

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RD-2

● Solve your school's locker problems once and for all with dependable Dudley Locks.

Get schoolwide protection for your school with no budget expense. Use the Dudley Self-Financing Plan.

Write for details and for Catalog Folder showing the Dudley Line of combination padlocks and built-in locks.

DUDLEY LOCK CORPORATION

570 W. Monroe St., Dept. 112, Chicago 6, Ill.

AMERICA'S SCHOOL BUILDING CRISIS

(Concluded from page 24)

lowing: (1) abandon S. 2317 in its present form and seek a more adequate program such as outlined in the original version of S. 2317 and H.R. 5718 or in S. 287 or H.R. 3849; (2) seek quick passage of S. 2317 as amended in order to begin state surveys and help federally impacted areas and then push for a general-aid-for-school-construction bill molded along the lines of the original pattern of Senate bill 2317.

School administrators interested in giving effective support to the next steps needed should confer with their state school officials, their Congressional representatives, and the executive secretary of the National Council of Chief State School Officers.

THE SCHOOL BOARD LAYS A CORNERSTONE

(Concluded from page 34)

records not only preserve school history for subsequent generations, but can be used repeatedly in classrooms and assemblies to

The Eastern Teachers' Agency
200 Sunrise H'way, Rockville Centre, L. I., N. Y.
Recommends Highest Type Administrative Candidates to School Boards and School Superintendents.
Member N.A.T.A.

impart this historical information to pupils who did not attend the ceremonies.

Obviously the school boards that choose this type of ceremony are in good company. The occasion is impressive enough to provide fine community public relations. At the same time, patrons, students, and nonpatron taxpayers gain a vivid impression of the pains the schools take to bring to all concerned the significance of American education as a cornerstone of our nation.

DAYLIGHT IN CLASSROOMS

(Concluded from page 37)

requirements of the individual school or classroom.

The investigations indicate that a daylighting design incorporating this careful correlation of factors will produce a visual environment which meets the requirements of the 1948 American Standard Practice for School Lighting, with daylight alone as the source of light, during most normal school hours.

What is perhaps more important, if such design for daylight is incorporated in the original architectural plan of the building, it can be had at little more, and possibly at no added cost.

► Tyler, Tex. The City Commission has sold a \$700,000 school bond issue to a Dallas bank at an average true interest rate of 1.9344.

► Parma City, Ohio. Renewal of the five-mill school levy has been approved, and a \$3,250,000 bond issue for new buildings and additions has been passed.



KILL BLACKBOARD GLARE
use

SKIL Oscillating Sander

DOES LOTS OF SANDING JOBS!

Refinish desks, stair treads, door jambs, window sills, tables. Speed all refinishing with SKIL Oscillating Sander.

Renew blackboards to their original finish... quickly, easily, inexpensively... with SKIL Oscillating Sander. Two-way sanding action means better finishes. (Leading edge sands circularly and trailing edge rubs with a reciprocating motion.) Light weight for easiest operation on walls. Low first cost and low maintenance costs make SKIL Oscillating Sander ideal for school budgets. Ask your SKIL Tool Distributor for a demonstration.

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The cleanest, finest, clearest cuts are a fetish around here. That's why our craftsman etch straight down and always etch clean. No dirt spots mar the plate, no shoulders pop up to effect reproduction. To insure an ultra-meticulous job, our finishers double check to remove all unwanted dead metal. We come clean so your printing and electroplating looks sharp and crisp! Try us!

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MADE FOR CLASSROOMS... and offices, too!

SYLVANIA'S LOW-COST, CAREFULLY ENGINEERED FLUORESCENT FIXTURE, THE CL-242

EFFICIENT REFLECTOR

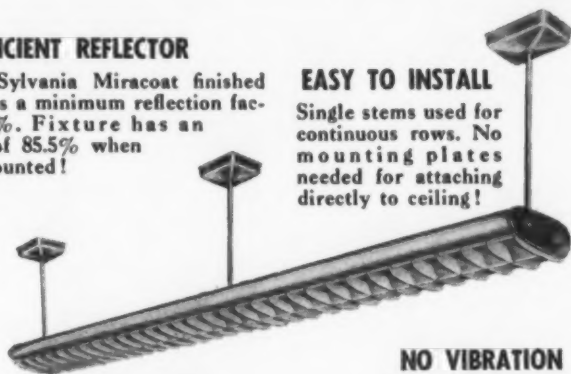
Exclusive Sylvania Miracoat finished reflector has a minimum reflection factor of 86%. Fixture has an efficiency of 85.5% when pendant mounted!

EASY TO INSTALL

Single stems used for continuous rows. No mounting plates needed for attaching directly to ceiling!

EASY TO SERVICE

Plastic side baffles simply lift out. Exclusive reflector spring latches at both ends of unit release entire reflector and louver assembly for easy lamp replacement and cleaning!



INVISIBLE JOINTS

No joining bands required. You get single sweeps of quality lighting—no dark shadows between fixtures in continuous rows!

NO VIBRATION

Baffles crimped on by a special Sylvania method—no loose parts to rattle!

Complete with lamps that last 3 to 6 years in normal operation!



The ideal unit for good classroom lighting! No harsh contrast between unit and ceiling. Light distributed 55% upward, 45% downward. Triple-Life Sylvania lamps give years of high light output!

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Gentlemen: Forward full details on new CL-242 Fixture and Triple-Life Lamps.

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FLUORESCENT LAMPS, FIXTURES, WIRING DEVICES, SIGN TUBING; LIGHT BULBS; PHOTOLAMPS; RADIO TUBES; CATHODE RAY TUBES; ELECTRONIC DEVICES

START THE NEW YEAR RIGHT WITH



THE WORLD SITS ON "STANDARD" FOLDING CHAIRS

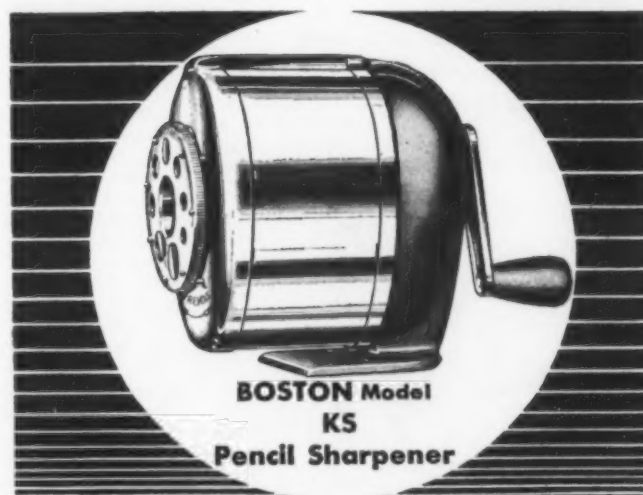


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WOOD
FOLDING
CHAIRS
SINCE
1898

OUTSTANDING QUALITY
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THE STANDARD MANUFACTURING COMPANY
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BOSTON Model
KS
Pencil Sharpener



Mr. BOSTON
SPEED CUTTER
Says "Six Extra
cutting edges
make them last
longer!"

All the famous BOSTON features in a completely all metal modern design
Dial selector for 8 pencil sizes
BOSTON twin milling 15 edge cutters
All metal, nickel-plated receptacle
Stream-lined, heavier stand for greater strength
Write for Catalog
C. HOWARD HUNT PEN CO., CAMDEN, N. J.
Also manufacturers of Speedball Pens and Products...
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BOSTON
PENCIL SHARPENERS

NEW SUPPLIES AND EQUIPMENT

HUNTINGTON ANNOUNCES PINE-TYPE GERMICIDE

A new germicide product, *Scento-Pine*, has been announced by Huntington Laboratories. Compounded of steam-distilled pine oil, soap, and powerful chemical synthetics, *Scento-Pine* has the advantage that it cleans and deodorizes as it disinfects. The pine-oil-soap combination assures a dirt-free surface upon which the germicidal agents may work.

Scento-Pine has a phenol coefficient of five, may be diluted with up to 100 parts of water, and in dilution produces a stable emulsion. It does not lose power when stored for long periods; it replaces obnoxious odors with a pleasant pine aroma, and avoids disagreeable "disinfectant odor." It is suitable for use in school washrooms, locker rooms, on floors and walls to control the germ menaces. It is suited for the scrub bucket, and for disinfecting dust rags, brushes, and mops.

For complete information write to the *Huntington Laboratories, Inc., Huntington, Ind.*

For brief reference use ASBJ-0101.

ISSUE POSTURE WALL POSTERS

The American Seating Company, Grand Rapids, 2, Mich., announces that the long-awaited revised series of large wall posture posters is now available for free distribution upon request.

The six posters illustrate "good" and "bad" posture in schoolrooms. An attractive 4-color poster "When Seated at Your Study" is included as a seventh poster to help children retain correct seated posture at home, in the library, etc.

For complete information write to the *American Seating Co., Grand Rapids 2, Mich.*

For brief reference use ASBJ-0102.

NEW "AMERICAN" FOLDING CHAIR

There is nothing like a good folding chair for transforming an arena into an auditorium or a hotel ballroom into a convention meeting place. With its No. 44 Folding Chair, American Seating



New American folding chair.

Company has eliminated most of the usual folding chair faults and frailties. No. 44's Y-type, tubular-steel construction evenly distributes the sitter's weight, and renders toppling or overturning difficult.

Comfort, however, has been the prime consideration of American Seating designers, with seat and back panel formed to fit the human form scientifically.

The American No. 44 is lightweight, yet sturdy enough to withstand the rugged handling. It's easy to clean and has no sharp edges to tear

garments. Metal parts are enameled; seat durably lacquered; rubber feet prevent slipping.

For complete information write to the *American Seating Co., Grand Rapids 2, Mich.*

For brief reference use ASBJ-0103.

ADVANTAGES OF HAUSERMAN STEEL PARTITIONS

The E. F. Hauserman Company has issued a new catalog indicating that the Hauserman steel partitions are popular in schools, because they provide economical, pleasant, safe, and practical classrooms and offices, and because their movability assures the school that it will always be adjusted to the needs of the current school program.

Among the advantages cited are long-range economy resulting in greatly reduced maintenance costs; sound control which allows students, teachers, and administrative staff to enjoy the benefits of Hauserman sound proofing; fine appearance in a wide variety of colors conducive to good vision and increased concentration; incombustibility which insures a safer school; a wide variety of types to fit the needs of every area of a modern school building, including soundproofing, lighting, and through-vision needs.

For complete information write to the *E. F. Hauserman Co., 6782 Grant Ave., Cleveland 5, Ohio.*

For brief reference use ASBJ-0104.

HUNTINGTON INTRODUCES NEW SEAL REMOVER

Huntington Laboratories, Inc., have introduced a new seal remover which is effective in removing old seals, varnishes, and other finishes from gym floors, ordinary wood floors, walls or woodwork, and from desks and furniture.

The solvent, a heavy-bodied liquid, is noninflammable, nonexplosive, and will not damage the grain or discolor the finest wood because it contains no alkali, water, wood alcohol, acids, or lye. One application is usually effective, for the remover covers evenly, evaporates slowly, and penetrates deeply, raising several old coats of seal at a time. It can be applied with a brush, lamb's wool mop, or sprinkling can. Because of its molasses-like consistency, the seal remover works equally well on vertical surfaces, in hard-to-get-at corners and on the level.

For additional information write *Huntington Laboratories, Inc., Huntington, Ind.*

For brief reference use ASBJ-0105.

NEW NYLON SCHOOL SWEEP

Maintenance experts in schools and other institutions are putting a new type of floor brush in the hands of their cleaning crews—one made with tapered, hand-set, nylon bristles.

This is a new use for tapered nylon bristles which were developed originally for paint brushes. Adapted for use in floor sweeps, as the brushes are called, the bristles give a definite improvement in brushing quality. They flex better and so do a better job of collecting dust and dirt without "flipping" it.

Nylon bristles are unaffected by water, soaps, synthetic detergents, or floor waxes, and can be sterilized repeatedly. They will not become brittle and will not split, fray or rot. They absorb little moisture, dry quickly, and resist matting. Tests show that brushes of nylon bristles wear three times longer than brushes with natural bristles, and 16 times longer than fiber brushes.

The brushes come in widths of 12 to 36 in., have natural lacquered, beveled end blocks. The bristles are fastened in with oil-resistant pitch

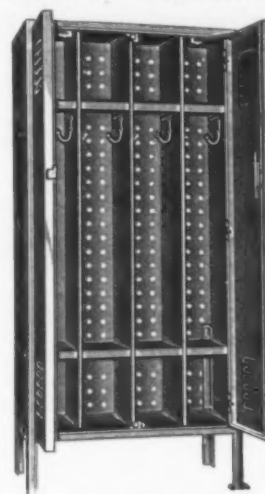
cement, and brushes have a wide flare at each end to reach into corners. The sweeps are competitive in price with those made with top-quality horsehair, and less expensive than hog bristle.

For further information write *E. I. Du Pont Co., Wilmington 98, Del.*

For brief reference use ASBJ-0106.

ELEMENTARY LOCKER INTRODUCED BY LYON

Lyon Metal Products, Inc., Aurora, Ill., has added a new elementary school locker to its present line of steel lockers.



New Lyon Locker.

This locker is 48 in. high, 12 in. deep, and 24 in. wide. Each locker accommodates four students. The four separate compartments have top and bottom shelves which are adjustable to provide 7½-in. or 9-in. space. The double doors are louvered and the back is punched for ventilation. The right hand door has a locking device engaging at the top and bottom and the left hand door at the center. Each compartment contains two coat hooks attached to sides below shelves. Doors open 90°.

The locker is finished in green baked-on enamel or nonglare gray, and fitted with padlock hasp or flat key lock.

A teacher's storage locker has also been introduced, identical with the pupil's locker except that there are three stationary shelves in place of the four compartments.

Write *Lyon Metal Products, Aurora, Ill.*, for further information.

For brief reference use ASBJ-0107.

BETTER CLASSROOM DAYLIGHTING

The content of the 16-page booklet "Better Classroom Daylighting" is an explanation and the result of an engineering study conducted by Professor R. L. Bieseke, Jr., at Southern Methodist University, Dallas, Tex. It comprises some interesting outgrowths of an investigation of unilateral window lighting of a typical classroom. The fenestration, arrangement of seating, decoration and lighting standards, including brightness ratios in the visual fields, are all based upon and related to the recommendations of the American Standard Practices for School Lighting.

Copies available on request. Write to *Detroit Steel Products Company, 2250 East Grand Blvd., Detroit 11, Mich.*

For brief reference use ASBJ-0108.

NEW WESTINGHOUSE MOTION PICTURE CATALOG

A 24-page catalog, describing 14 sound pictures for schoolroom use, has been issued by the School Service Department of the Westinghouse Electric Corporation.

The motion pictures, described and illustrated, cover such fields as jet propulsion, electricity, electronics, radio, nutrition, salesmanship, social science, and industrial arts. It includes various teaching aids which are available in connection with the films. The films can be borrowed free of charge, except for transportation costs.

Teachers may obtain copies of the catalog (B-4444) by writing to the *School Service Department, Westinghouse Electric Corporation, 306 Fourth Ave., Box 1017, Pittsburgh 30, Pa.*

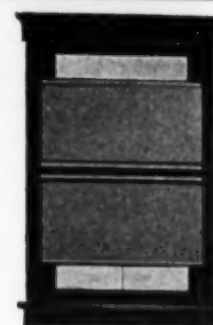
For brief reference use ASBJ-0109.



STYLE "B" BLACK
DARKENING SHADE

STEELE

WAS TAUGHT BY EXPERIENCE . . .
. . . *50 YEARS OF MANUFACTURING



STYLE "G" TAN
DUCK DOUBLE ROLLER
SHADE

Duck Window Shades

*GOLDEN ANNIVERSARY YEAR . . . ESTABLISHED 1900

*The most complete line of public building shading available — 19
different standard styles. A shade for every problem or specification.*

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VISIT OUR EXHIBIT
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Spiceland, Indiana

MANUFACTURERS OF SUN TRANSLUCENT SHADES, DARKENING SHADES, SHADE
HARDWARE AND CORD, METAL ROLLERS AND SLATS, SCHOOL SPECIALTIES



ARMISTEAD GARDENS ELEMENTARY SCHOOL

(Concluded from page 54)

developed in accordance with Baltimore's policy of designing to prevent serious erosion. Individual approach has been provided to the two kindergarten rooms, Figure 4.

Other pertinent data are summarized below:

Construction Data

General construction is fire resistant with steel frame of light standard sections and junior beam, simple latticed truss for long spans. Walls are of hollow masonry with a 4-in. dead air space tied across with welded truss-form galvanized reinforcing steel shaped so as to prevent capillary movement of water from the outer to the inner wall. Floors will be a reinforced waterproofed concrete slab on grade and insulated against heat loss. Ceilings will be treated with acoustical material throughout. The roof will be of 2-in. poured-in-place gypsum poured on insulating form board which will be left in place. The gypsum slab will be covered with a 20-year type of built-up roofing, dead level. The covering of the roofing of the corridor and service and auxiliary rooms opposite the classrooms will consist of white granite or limestone chips in order to reflect maximum light through the clerestory windows and to minimize the absorption of heat.

The interior finish will consist of glazed terra-cotta units to wainscot height in halls,

cafeteria, gymnasium, etc., and to ceiling height in toilet rooms with painted block above wainscot line. Asphalt-tile floors will be used in all classrooms and similar spaces. The gymnasium will have a five-quarter maple floor. The main lobbies will be finished with terrazzo floors and the corridors and other spaces will be finished in hardened metallic aggregate colored concrete. All interior doors will be flush-panel wood with two-hour fire rating (fireproof core). Exterior doors will be of aluminum or steel.

The fenestration will be intermediate projected steel sash.

The ventilation will be by unit ventilators, by gravity, and bilateral fenestration.

It is expected that the plans for this building, having an estimated cubage of 1,081,925 cu. ft., will be completed by the middle of January, 1950, and that construction will begin about the middle of February.

NEW TYPE CALIFORNIA JUNIOR HIGH SCHOOL

(Concluded from page 47)

mentioned was purchased and a 32-acre site for a new senior high school, to be erected within the next few years.

The junior high school which is being enlarged has an enrollment of 675 students and the adjoining Fremont elementary school houses 756 children. One reason why the junior high school buildings are being erected is because the existing structures — all of

which eventually will be replaced — do not conform to the state's anti-earthquake construction law.

Charles Coil, Jr., is president of the Antioch board of education; Dr. Henry R. Spiess is superintendent of schools; Albert Lynde, principal of the Junior High School; Kump and Falk, San Francisco, were the architects. Photographs by Roger Sturtevant, San Francisco.

PERSONAL NEWS

► CHARLES MCINTOSH, superintendent of schools of Platt County, the oldest superintendent in Illinois in point of service, died recently after many years of prominent service in schoolwork.

► WINSTON D. BROWN, superintendent of schools of Waukesha County, has been elected president of the Wisconsin Education Association. He is 39 years old and one of the youngest persons to be elected to that post.

► MISS EDITH A. LATHROP, 75, former United States Office of Education specialist, Washington, D. C., died November 28, after a long illness.

► According to an announcement released November 29, 1949, by Federal Security Administrator Oscar R. Ewing, Dr. BESS GOODYKOONTZ has been appointed Associate Commissioner in the Office of Education, Federal Security Agency, Washington, D. C.

► SUPERINTENDENT W. T. WHITE, Dallas, Tex., has been elected president of the Texas Association of School Administrators. E. T. ROBERTS, superintendent of Alamo Heights, San Antonio, has been elected vice-president; FRANK RICHARDSON, Henrietta, re-elected secretary.

► WILLIAM D. WOLFE, superintendent of the Atchison city schools for the past five years, was unanimously elected head of the Lawrence, Kans., city schools at a yearly salary of \$8,600.

Report from a Great University:

MORE Student Progress

LESS Teacher Load



**The Educational Model
SOUNDMIRROR**
is a complete unit.

Model BK 428-B illustrated.

Easy to carry from classroom to classroom.

Soundmirror brings professional standards to amateur use. Now being used with outstanding success for

- orchestra and band practice
- foreign language study
- speech study and correction
- music appreciation
- dramatics
- stenography



30 minutes recording time, per reel of tape, fits classroom work schedules.

Brush . . . for more than 10 years
leaders in magnetic recording

*Trade Mark Registered

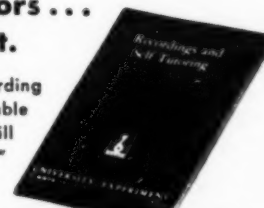
"**M**ORE PUPILS make more progress—faster—when the Soundmirror is used in teaching than the records have ever shown before." Those are the words of an eminent educator in one of the country's great universities. He used the Soundmirror—the modern magnetic tape recorder made by Brush—in his own summer course and made exact tabulations and a report of student progress. He found student improvement rapid, and the drudgery of teacher repetition greatly reduced.

This report is now in book form—just off the press. It shows how the Soundmirror can help instructors reduce their teacher load, and achieve rapid student progress in the fields of music, drama, speech, language, radio training, stenographic drill.

SOUNDMIRROR*

**FREE copy to accredited educators . . .
the complete University Report.**

Brush, a pioneer in the development of magnetic recording instruments, wants to make this educational report available to all educators. Your signature on the coupon below will bring you a copy of "Recordings and Self Tutoring."



SEND THIS COUPON TODAY!

**THE BRUSH DEVELOPMENT COMPANY, Dept. D 2
3405 Perkins Avenue, Cleveland 14, Ohio**

Please send me, without obligation, the report on "Recordings and Self Tutoring" in classes where the SOUNDMIRROR was used.

Name

Address

City Zone State

Name of School

Type of Work

PEABODY

RECOMMENDS

No. 260 STEEL MOVABLE DESKS



NEW SUNTAN COLOR, PLEASING TO PUPILS — ADDS BEAUTY TO ROOM

Classrooms equipped with PEABODY'S No. 260 Steel Movable Desks have the most efficient, most comfortable, most attractive seating money can provide. This famous seating is quality seating from every angle. Desks and seat are independently adjustable, permitting maximum comfort for every child.

In keeping with the desire for brighter, cheerier classrooms, No. 260 Steel Movable Desks are available in the gorgeous new SUNTAN finish. The desk tops, seats and backs are also given a CELSYN coating—a coating so hard and tough it resists scratching to a remarkable degree.

Write for complete information on No. 260 Steel Movable Desks.

PEABODY OFFERS FULL LINE OF SCHOOL SEATING . . .


The PEABODY Line is a complete quality line of school seating, desks, chairs, tables, teachers' and administrators' desks and folding chairs. From this one manufacturer purchasers of school equipment can buy all necessary school furniture and be protected by the PEABODY ironclad guarantee of superior quality, workmanship, material and correctness of design.

*We invite your inquiries.
Write direct to —*

The Peabody Seating Co., Inc.
Box 1 North Manchester, Indiana




No. 33
No-Tip Steel
Folding Chair



34 years of experience, together with necessary technical skills and production facilities, has earned for Vallen the reputation of . . .

"WORLD'S LEADING MAKER"

Noiseless Curtain Tracks. Controls. Special Operating Devices.



VALLEN, INC.

Akron, Ohio



TOUGHEST

School and recreation-field service is the toughest that Outdoor Water Service Devices get.

Drinking Fountains and Hydrants must be dependable in spite of vandalistic practices.

Murdock fixtures have been on the American scene for 96 years.

Because of the way they are designed and the materials of which they are fashioned, the taxpayer gets his money's worth.

The Murdock Mfg. & Sup. Co.
428 Plum St. Cincinnati 2, Ohio

MURDOCK



OUTDOOR DRINKING FOUNTAIN



ANTI-FREEZING COMPRESSION HYDRANT

**OUTDOOR DRINKING FOUNTAINS
HYDRANTS
STREET WASHERS**



SELF-CLOSING ANTI-FREEZING HYDRANT



"LOCK-LID" STREET WASHERS
3/4" and 1" SIZES

ADULT SCHOOL BUILDING NEEDS OF SAN FRANCISCO—III

(Concluded from page 44)

The three regular classrooms are necessary for instruction in speech, for play reading, and for other activities which will engage large numbers of those enrolled. The rehearsal halls are necessary unless participation is to be limited. They should be equipped with stepped platforms so that chairs can be used for shows produced on a "pent-house theater" basis.

Quite obviously, the little theater must be located on the street level, and undoubtedly a small lobby will be necessary between the theater and the street. The stage also must be accessible from the street level for handling scenery and properties. Doors must be large enough to handle large flats.

The above discussion shows the obvious advantages in having the theater program located in a building which also houses adult classes in crafts and homemaking since there can be a close integration of such activities as basic design, costume and scenery design, costume making, painting, and so on.

6. Small Auditorium

In addition to the little theater described, the adult program has need for a small auditorium seating between 200 and 300, available every night for forum programs, discussion groups, and lectures. Since the California State Board of Education regulations limit the size of forum groups, a larger room than this is not needed.

Nothing other than a raised platform for the speakers and leader need be provided, but this platform should contain facilities so that a stove can be brought in on wheels and hooked up for demonstration cooking and nutrition lectures before large groups. Also needed for the same purpose is a sink, with running water, which can be masked off in a cupboard or behind a screen.

It would be well if facilities could be built into the auditorium for broadcasting the programs presented. Seats will have to be elevated, and the room should be kept in proportion, being neither unnecessarily wide nor long.

The building needs of adult education in San Francisco, as outlined in the three articles which have composed this series, if implemented more or less in the form proposed, would guarantee to the community a continuation of the same sort of educational opportunities for adults which have become such an important factor in the cultural life and mental health of the community. Such facilities would guarantee the continued flexibility that is required if adult education is to meet the educational needs of community agencies, of neighborhood groups, of parent organizations, of clubs, of commercial firms, of public service bodies, and of every individual who wants to continue learning throughout life.

EQUAL EDUCATIONAL OPPORTUNITIES FOR BATON ROUGE, LOUISIANA

(Concluded from page 43)

areas of the South there have been developed, or are being developed, long-range plans of action. These plans will proceed as rapidly as possible; being governed by the prevailing conditions of funds available, the growth and

development of public responsibility, and the recognition that the public school systems are an integral yet integrated part of a larger over-all program of "general welfare" for the good of all the people of the South. The progress which has been made in the state of Louisiana in the past five years is typical of the tremendous advances which have been made in the South in behalf of education for all youth. Notable among its achievements are equal salaries for both whites and Negroes (single salary schedule: \$2,400 minimum with B.A. or B.S., and \$2,500 minimum with M.A. or M.S.) with teachers of equal qualifications and training serving in Negro and white schools at both the elementary and high school levels and in both rural and urban situations.

Many educators in the South are looking forward to the day, within the next decade, when the racial issue will no longer be bantered about as the South's number one problem.

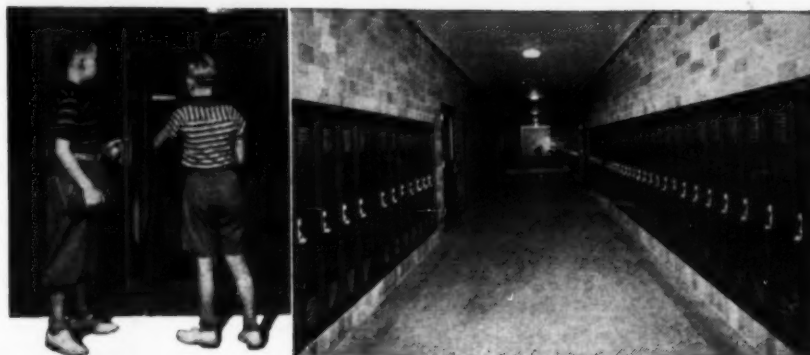
PERSONAL NEWS OF SCHOOL OFFICIALS

► The U. S. Office of Education announces the appointment of DR. ERICK L. LINDMAN, Olympia, Wash., as chief of school finance in the Division of School Administration.

► DR. ERNEST E. COLE, 78, former Commissioner of Education for New York State, died November 19, at Bath, N. Y.

► ROBERT A. MACLELLAN has been re-elected to the position of Commissioner of School Buildings at Boston, Mass.

► J. PRITCHARD has been elected president of the board of education of Richmond County, Ga.



Which LOCKER INSTALLATION meets your School Plan?

There's a big variation in school locker needs—and A-S-E has recognized these varying needs with the *one complete locker line*. A-S-E Lockers are built in many sizes and with a variety of interior equipment. From Single Tier installations to modern Recessed Single, Double or Multiple Tiers, or convenient Wall Robes, A-S-E can meet your plan and budget needs *exactly*. And, every locker is made to last for the life of your building!

On Every Count, your outstanding source is A-S-E.
Write for illustrated School Locker Catalog.

New A-S-E Desk and Table Line is ideal for school use . . .



A wide range of Desk models and Table sizes gives you a selection of beautifully designed equipment—built for years of durable service. Full information on request.

ALL-STEEL EQUIPMENT INC.

101 KENSINGTON AVENUE • AURORA, ILLINOIS

Leaders in the design and manufacture of:

Steel Desks and Tables
Filing Cabinets
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Janitor's Cabinets

Utility Racks
Key Cabinets
Lockers
DS Files

No more locker problems!



RD-2

● Solve your school's locker problems once and for all with dependable Dudley Locks.

Get schoolwide protection for your school with no budget expense. Use the Dudley Self-Financing Plan.

Write for details and for Catalog Folder showing the Dudley Line of combination padlocks and built-in locks.

DUDLEY LOCK CORPORATION

570 W. Monroe St., Dept. 112, Chicago 6, Ill.

AMERICA'S SCHOOL BUILDING CRISIS

(Concluded from page 24)

lowing: (1) abandon S. 2317 in its present form and seek a more adequate program such as outlined in the original version of S. 2317 and H.R. 5718 or in S. 287 or H.R. 3849; (2) seek quick passage of S. 2317 as amended in order to begin state surveys and help federally impacted areas and then push for a general-aid-for-school-construction bill molded along the lines of the original pattern of Senate bill 2317.

School administrators interested in giving effective support to the next steps needed should confer with their state school officials, their Congressional representatives, and the executive secretary of the National Council of Chief State School Officers.

THE SCHOOL BOARD LAYS A CORNERSTONE

(Concluded from page 34)

records not only preserve school history for subsequent generations, but can be used repeatedly in classrooms and assemblies to

The Eastern Teachers' Agency

200 Sunrise H'way, Rockville Centre, L. I., N. Y.
Recommends Highest Type Administrative Candidates to School Boards and School Superintendents.

Member N.A.T.A.

impart this historical information to pupils who did not attend the ceremonies.

Obviously the school boards that choose this type of ceremony are in good company. The occasion is impressive enough to provide fine community public relations. At the same time, patrons, students, and nonpatron taxpayers gain a vivid impression of the pains the schools take to bring to all concerned the significance of American education as a cornerstone of our nation.

DAYLIGHT IN CLASSROOMS

(Concluded from page 37)

requirements of the individual school or classroom.

The investigations indicate that a daylighting design incorporating this careful correlation of factors will produce a visual environment which meets the requirements of the 1948 American Standard Practice for School Lighting, with daylight alone as the source of light, during most normal school hours.

What is perhaps more important, if such design for daylight is incorporated in the original architectural plan of the building, it can be had at little more, and possibly at no added cost.

► Tyler, Tex. The City Commission has sold a \$700,000 school bond issue to a Dallas bank at an average true interest rate of 1.9344.

► Parma City, Ohio. Renewal of the five-mill school levy has been approved, and a \$3,250,000 bond issue for new buildings and additions has been passed.



**KILL
BLACK-
BOARD
GLARE**
use

SKIL Oscillating Sander

**DOES LOTS OF
SANDING JOBS!**

Refinish desks, stair treads, door jambs, window sills, tables. Speed all refinishing with SKIL Oscillating Sander.

Renew blackboards to their original finish... quickly, easily, inexpensively... with SKIL Oscillating Sander. Two-way sanding action means better finishes. (Leading edge sands circularly and trailing edge rubs with a reciprocating motion.) Light weight for easiest operation on walls. Low first cost and low maintenance costs make SKIL Oscillating Sander ideal for school budgets. Ask your SKIL Tool Distributor for a demonstration.

SKILSAW, INC., 3033 Elston Ave., Chicago 30, Ill.

Factory Branches in Principal Cities

In Canada: SKILTOOLS, LTD., 66 Portland St., Toronto, Ont.

We come clean



The cleanest, finest, clearest cuts are a fetish around here. That's why our craftsman etch straight down and always etch clean. No dirt spots mar the plate, no shoulders pop up to effect reproduction. To insure an ultra-meticulous job, our finishers double check to remove all unwanted dead metal. We come clean so your printing and electroplating looks sharp and crisp! Try us!

premier
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818 West Winnebago Street • Phone MARquette 8-3337 or 8-3338, Milwaukee 5, Wis.

MADE FOR CLASSROOMS...and offices, too!

SYLVANIA'S LOW-COST, CAREFULLY ENGINEERED FLUORESCENT FIXTURE, THE CL-242

EFFICIENT REFLECTOR

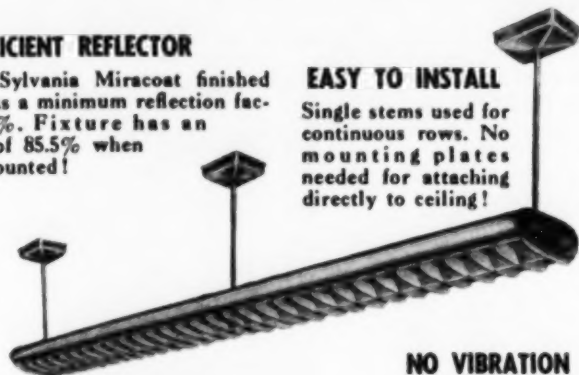
Exclusive Sylvania Miracoat finished reflector has a minimum reflection factor of 86%. Fixture has an efficiency of 85.5% when pendant mounted!

EASY TO INSTALL

Single stems used for continuous rows. No mounting plates needed for attaching directly to ceiling!

EASY TO SERVICE

Plastic side baffles simply lift out. Exclusive reflector spring latches at both ends of unit release entire reflector and louver assembly for easy lamp replacement and cleaning!



INVISIBLE JOINTS

No joining bands required. You get single sweeps of quality lighting—no dark shadows between fixtures in continuous rows!

NO VIBRATION

Baffles crimped on by a special Sylvania method—no loose parts to rattle!

Complete
with lamps
that last 3 to 6
years in normal
operation!



The ideal unit for good classroom lighting! No harsh contrast between unit and ceiling. Light distributed 55% upward, 45% downward. Triple-Life Sylvania lamps give years of high light output!

**MAIL
COUPON!**

Sylvania Electric Products, Inc.
Advertising Dept. L-9601
300 Fifth Ave., New York 18, N. Y.
Gentlemen: Forward full details on new
CL-242 Fixture and Triple-Life Lamps.

Name _____
School _____
Address _____
City _____ State _____

SYLVANIA ELECTRIC

FLUORESCENT LAMPS, FIXTURES, WIRING DEVICES, SIGN TUBING, LIGHT BULBS, PHOTOLAMPS, RADIO TUBES, CATHODE RAY TUBES, ELECTRONIC DEVICES

START THE NEW YEAR RIGHT WITH



THE WORLD
SITS ON
"STANDARD"
FOLDING CHAIRS

Copyright 1949 Standard Mfg. Co.

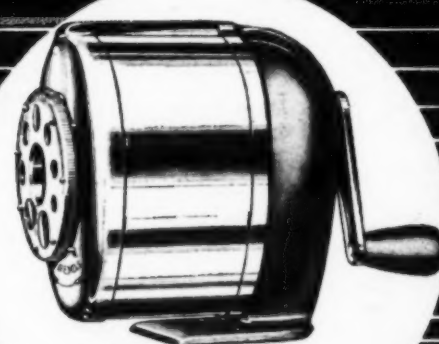


MODEL 44

WOOD
FOLDING
CHAIRS
SINCE
1898

OUTSTANDING QUALITY
for
YEARS OF SERVICE

THE STANDARD MANUFACTURING COMPANY
DEPT. "AM" CAMBRIDGE CITY, INDIANA



BOSTON Model
KS
Pencil Sharpener



Mr. BOSTON
SPEED CUTTER
Says "Six Extra
cutting edges
make them last
longer!"

All the famous BOSTON features in a completely
all metal modern design
Dial selector for 8 pencil sizes
BOSTON twin milling 15 edge cutters
All metal, nickel-plated receptacle
Stream-lined, heavier stand for greater strength
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C. HOWARD HUNT PEN CO., CAMDEN, N. J.
Also manufacturers of Speedball
Pens and Products...
Hunt Pen

BOSTON
PENCIL SHARPENERS

NEW SUPPLIES AND EQUIPMENT

HUNTINGTON ANNOUNCES PINE-TYPE GERMICIDE

A new germicide product, *Scento-Pine*, has been announced by Huntington Laboratories. Compounded of steam-distilled pine oil, soap, and powerful chemical synthetics, *Scento-Pine* has the advantage that it cleans and deodorizes as it disinfects. The pine-oil-soap combination assures a dirt-free surface upon which the germicidal agents may work.

Scento-Pine has a phenol coefficient of five, may be diluted with up to 100 parts of water, and in dilution produces a stable emulsion. It does not lose power when stored for long periods; it replaces obnoxious odors with a pleasant pine aroma, and avoids disagreeable "disinfectant odor." It is suitable for use in school washrooms, locker rooms, on floors and walls to control the germ menaces. It is suited for the scrub bucket, and for disinfecting dust rags, brushes, and mops.

For complete information write to the *Huntington Laboratories, Inc., Huntington, Ind.*

For brief reference use ASBJ-0101.

ISSUE POSTURE WALL POSTERS

The American Seating Company, Grand Rapids, 2, Mich., announces that the long-awaited revised series of large wall posture posters is now available for free distribution upon request.

The six posters illustrate "good" and "bad" posture in schoolrooms. An attractive 4-color poster "When Seated at Your Study" is included as a seventh poster to help children retain correct seated posture at home, in the library, etc.

For complete information write to the *American Seating Co., Grand Rapids 2, Mich.*

For brief reference use ASBJ-0102.

NEW "AMERICAN" FOLDING CHAIR

There is nothing like a good folding chair for transforming an arena into an auditorium or a hotel ballroom into a convention meeting place. With its No. 44 Folding Chair, American Seating



New American folding chair.

Company has eliminated most of the usual folding chair faults and frailties. No. 44's Y-type, tubular-steel construction evenly distributes the sitter's weight, and renders toppling or overturning difficult.

Comfort, however, has been the prime consideration of American Seating designers, with seat and back panel formed to fit the human form scientifically.

The American No. 44 is lightweight, yet sturdy enough to withstand the rugged handling. It's easy to clean and has no sharp edges to tear

garments. Metal parts are enameled; seat durably lacquered; rubber feet prevent slipping.

For complete information write to the *American Seating Co., Grand Rapids 2, Mich.*

For brief reference use ASBJ-0103.

ADVANTAGES OF HAUSERMAN STEEL PARTITIONS

The E. F. Hauserman Company has issued a new catalog indicating that the Hauserman steel partitions are popular in schools, because they provide economical, pleasant, safe, and practical classrooms and offices, and because their movability assures the school that it will always be adjusted to the needs of the current school program.

Among the advantages cited are long-range economy resulting in greatly reduced maintenance costs; sound control which allows students, teachers, and administrative staff to enjoy the benefits of Hauserman sound proofing; fine appearance in a wide variety of colors conducive to good vision and increased concentration; incombustibility which insures a safer school; a wide variety of types to fit the needs of every area of a modern school building, including soundproofing, lighting, and through-vision needs.

For complete information write to the *E. F. Hauserman Co., 6782 Grant Ave., Cleveland 5, Ohio.*

For brief reference use ASBJ-0104.

HUNTINGTON INTRODUCES NEW SEAL REMOVER

Huntington Laboratories, Inc., have introduced a new seal remover which is effective in removing old seals, varnishes, and other finishes from gym floors, ordinary wood floors, walls or woodwork, and from desks and furniture.

The solvent, a heavy-bodied liquid, is nonflammable, nonexplosive, and will not damage the grain or discolor the finest wood because it contains no alkali, water, wood alcohol, acids, or lye. One application is usually effective, for the remover covers evenly, evaporates slowly, and penetrates deeply, raising several old coats of seal at a time. It can be applied with a brush, lamb's wool mop, or sprinkling can. Because of its molasses-like consistency, the seal remover works equally well on vertical surfaces, in hard-to-get-at corners and on the level.

For additional information write *Huntington Laboratories, Inc., Huntington, Ind.*

For brief reference use ASBJ-0105.

NEW NYLON SCHOOL SWEEP

Maintenance experts in schools and other institutions are putting a new type of floor brush in the hands of their cleaning crews—one made with tapered, hand-set, nylon bristles.

This is a new use for tapered nylon bristles which were developed originally for paint brushes. Adapted for use in floor sweeps, as the brushes are called, the bristles give a definite improvement in brushing quality. They flex better and so do a better job of collecting dust and dirt without "flipping" it.

Nylon bristles are unaffected by water, soaps, synthetic detergents, or floor waxes, and can be sterilized repeatedly. They will not become brittle and will not split, fray or rot. They absorb little moisture, dry quickly, and resist matting. Tests show that brushes of nylon bristles wear three times longer than brushes with natural bristles, and 16 times longer than fiber brushes.

The brushes come in widths of 12 to 36 in., have natural lacquered, beveled end blocks. The bristles are fastened in with oil-resistant pitch

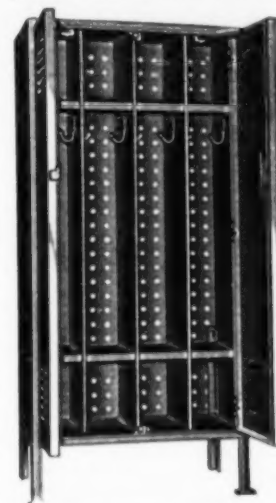
cement, and brushes have a wide flare at each end to reach into corners. The sweeps are competitive in price with those made with top-quality horsehair, and less expensive than hog bristle.

For further information write *E. I. Du Pont Co., Wilmington 98, Del.*

For brief reference use ASBJ-0106.

ELEMENTARY LOCKER INTRODUCED BY LYON

Lyon Metal Products, Inc., Aurora, Ill., has added a new elementary school locker to its present line of steel lockers.



New Lyon Locker.

This locker is 48 in. high, 12 in. deep, and 24 in. wide.

Each locker accommodates four students. The four separate compartments have top and bottom shelves which are adjustable to provide 7½-in. or 9-in. space. The double doors are louvered and the back is punched for ventilation. The right hand door has a locking device engaging at the top and bottom and the left hand door at the center. Each compartment contains two coat hooks attached to sides below shelves. Doors open 90°.

The locker is finished in green baked-on enamel or nonglare gray, and fitted with padlock hasp or flat key lock.

A teacher's storage locker has also been introduced, identical with the pupil's locker except that there are three stationary shelves in place of the four compartments.

Write *Lyon Metal Products, Aurora, Ill.*, for further information.

For brief reference use ASBJ-0107.

BETTER CLASSROOM DAYLIGHTING

The content of the 16-page booklet "Better Classroom Daylighting" is an explanation and the result of an engineering study conducted by Professor R. L. Bieseke, Jr., at Southern Methodist University, Dallas, Tex. It comprises some interesting outgrowths of an investigation of unilateral window lighting of a typical classroom. The fenestration, arrangement of seating, decoration and lighting standards, including brightness ratios in the visual fields, are all based upon and related to the recommendations of the American Standard Practices for School Lighting.

Copies available on request. Write to *Detroit Steel Products Company, 2250 East Grand Blvd., Detroit 11, Mich.*

For brief reference use ASBJ-0108.

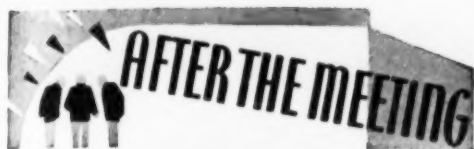
NEW WESTINGHOUSE MOTION PICTURE CATALOG

A 24-page catalog, describing 14 sound pictures for schoolroom use, has been issued by the School Service Department of the Westinghouse Electric Corporation.

The motion pictures, described and illustrated, cover such fields as jet propulsion, electricity, electronics, radio, nutrition, salesmanship, social science, and industrial arts. It includes various teaching aids which are available in connection with the films. The films can be borrowed free of charge, except for transportation costs.

Teachers may obtain copies of the catalog (B-4444) by writing to the *School Service Department, Westinghouse Electric Corporation, 306 Fourth Ave., Box 1017, Pittsburgh 30, Pa.*

For brief reference use ASBJ-0109.



A NEW YEAR

L. P. Penningroth

Let the old year end. Forget it.
Put it behind you. Let it die.

Let regrets, grudges, ifs, failures and
accomplishments sink into oblivion.

What you have gained from the year that
is ended is wrapped up in germs of
possibility for you in the year that is
now beginning.

Trust God since He has provided you with
life and faith throughout another year.

Conquer your fears. Fears destroy. The
two most successful ways of doing
away with fear are faith and love.
"Faith is the victory" and "Perfect love
casteth out fear."

Go into the new year with all your colors
flying. Go rejoicing in expectancy, filled
with hope of joy, and a program of
work which needs to be done. Go with
a prayer on your lips and a song in
your heart.

—Iowa State School Bulletin

THE DEAR DEPARTED

When tragedy strikes a school family, the sense
of loss pervades a large part of the school. It
affects all, not in the same way, but in kind, as
witness this tale.

The old jalopy that careened the neighborhood
streets was a familiar sight. It was usually loaded
with children, with father at the wheel, and
many a palpitation was experienced by bystand-
ers as it ground to shrieking stops or threaded
an intricate path through traffic. It couldn't pos-
sibly come to a good end and truth to tell,
everybody, while shocked immeasurably, was re-
lieved that nobody but the father was in it when
it ran off an embankment one night and was
utterly destroyed.

The widow, dry-eyed and composed, came in
to thank the principal for the generous assistance
the school as a whole had provided the family
in their bereavement. The principal was shaken
visibly in the encounter, one, which he would
have avoided if possible.

As she took her leave, the widow broke per-
ceptibly. "Things won't be the same ever again,"
she said, daubing at her eyes. "You know," she
added wistfully, "we're sure going to miss that
old car." —Chicago Principals' Club Reporter.

Known by Their Speech

The Keeper of the Celestial Gate asked from
within of the first applicant who he was.

"It's me," a voice replied, and St. Peter bade
him come in.

Another knock. Another question, "Who's
there?"

Another answer, "It's me!"

Then another sharp rap. "Who's there?" asked
St. Peter.

"It is I!" a voice replied.

"Another of those darned school teachers!"
grumbled St. Peter. —Wall St. Journal.

A Warning

A significant traffic sign near a rural school
in Wisconsin reads: "Do not kill the children,
wait for the teacher."

Advertisers Products and Services

Advertisers in this index are given a code number in addition to the page number on which the advertisement appears. Refer to the advertisement for product or services available. Write direct to advertisers or use the coupon in requesting information from a number of advertisers.

Code No.	Page No.	Code No.	Page No.
10A All Steel Equipment, Inc.	99	134 Minneapolis-Honeywell Regulator Co.	3rd cover
10 American Crayon Company	84	135 Modern School Supply Co.	92
11 American Radiator & Standard Sanitary Corp.	2	136 Mosaic Tile Company, The	19
12 American Seating Company	75	137 Murdock Mfg. & Suply Co.	98
13 Beckley-Cardy Company	85	138 Natural Slate Blackboard Co.	86
14 Berger Manufacturing Div., Republic Steel Corp.	79	139 Nelson Corp., Herman	22
15 Brush Development Company	97	140 Nesbitt, Inc., John J.	4th cover
16 Burroughs Adding Machine Co.	93	141 Peabody Company, The	98
17 Butler Manufacturing Company	15	142 Peterson & Co., Leonard	82
18 Certified Equipment Mfgs.	11	143 Pittsburg Reflector Co.	2nd cover
19 Chicago Hardware Foundry Co.	87	143A Pittsburgh Des Moines Steel Co.	69
111 Connsonata	95	144 Powers Regulator Co.	8 & 9
112 Crane Company	17	145 Premier Engraving Company	100
113 Detroit Steel Products Co.	3	146 Professional Directory	16
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115 Dudley Lock Corporation	100	148 Richards-Wilcox Mfg. Co.	70
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118 Ford Motor Company	89	151 Skilsaw, Inc.	100
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120 Hauserman Company, E. F.	13	153 Sloan Valve Company	1
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123 Holt Hardwood Company	68	156 Sylvania Electric Products, Inc.	101
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126 Johnson Service Company	20	159 Trane Company	18
127 Kaylo Division, Owens-Illinois Glass Co.	10	160 Truscon Steel Co.	65
128 Kewanee Boiler Corp.	12	161 Vallen, Inc.	98
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		167 Westinghouse Electric Corp.	7

The advertisements in this issue have been given a code number for your convenience in requesting information on products, services, booklets, and catalogs offered. Encircle the code number of the advertisement in which you are interested, clip and mail the coupon to THE AMERICAN SCHOOL BOARD JOURNAL. Your request will receive prompt attention. BRUCE-MILWAUKEE.

THE AMERICAN SCHOOL BOARD JOURNAL
540 North Milwaukee St., Milwaukee 1, Wis.

1950

Please send information offered in the advertisements we have encircled

10	11	12	13	14	15	16	17	18	19	110	111
112	113	114	115	116	117	118	119	120	121	122	123
124	125	126	127	128	129	130	131	132	133	134	135
136	137	138	139	140	141	142	143	144	145	146	147
148	149	150	151	152	153	154	155	156	157	158	159
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Also information on

Name

Please Print

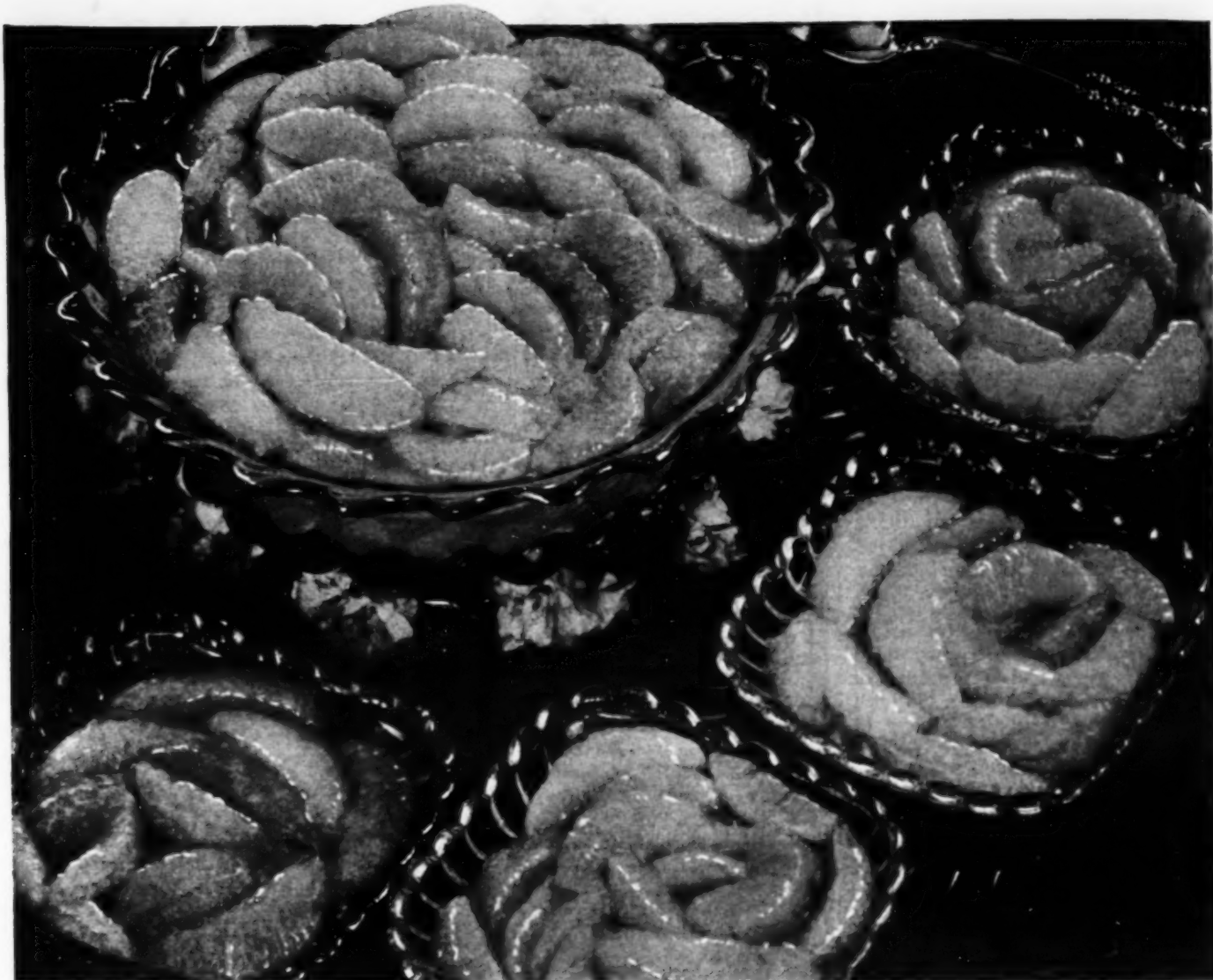
Title

School

City

Zone

State



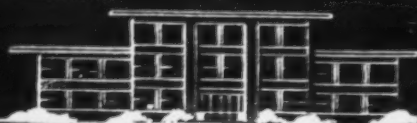
Sure winners!

You can't serve plumper, more flavorful, more vitamin-packed grapefruit segments than these—sun ripened in the Rio Grande Valley . . . picked and packed by us especially for your table. The Sexton label assures you the most of the finest . . . every can brimming full.

JOHN SEXTON & CO., 1950



Good Food for Pleased Guests



Of 10,400 School Superintendents 78.4% Would Specify Individual Room Temperature Control!



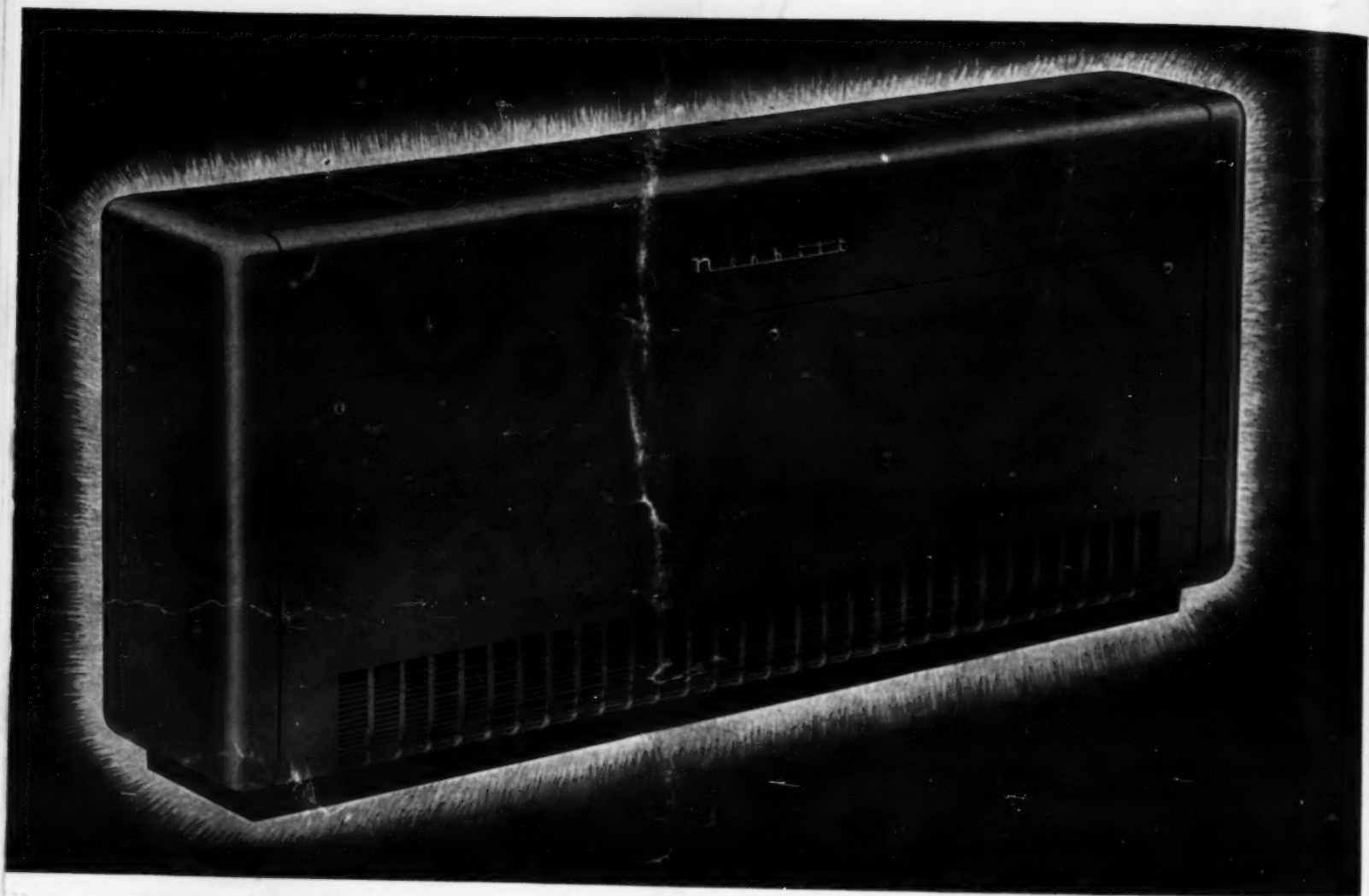
"THE Ideal School — How Would You Build It?" That's the question *School Management Magazine* asked more than 10,000 school superintendents across the nation. And more than three of every four responses specified individual room temperature control. When asked which features would be eliminated for reasons of economy, individual room temperature control was the last to be mentioned!

Yet these facts are not surprising, for educators have long taken the lead in molding the health habits of our country. Our school systems have contributed important new knowledge about the need for controlled atmosphere — healthful temperatures, correct humidity and adequate ventilation.

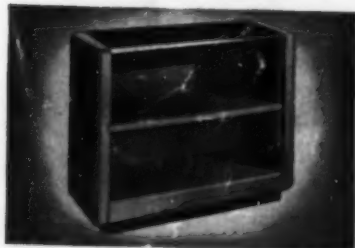
If you would like to see the complete *School Management* survey, Minneapolis-Honeywell, 60-year leader in automatic control, will arrange for the publisher to send you a copy. Minneapolis-Honeywell, Minneapolis 8, Minnesota. In Canada: Leaside, Toronto 17, Ontario.

MINNEAPOLIS
Honeywell
CONTROL SYSTEMS

"Guarding America's Health with Controlled Atmosphere"



The Nesbitt Syncretizer Unit Ventilator... PLUS



Nesbitt's standard open storage cabinets... and closed cabinets with receding doors... with a Nesbitt convactor, where desired... and adjustable fill-ins to meet the wall

EQUALS *"The Nesbitt Package"*

WITH ONE-PIECE
LINOLEUM TOP



The unit ventilator that sets a
new standard of classroom COMFORT
... and the ensemble that meets
today's needs in classroom CONVENIENCE
Sold by John J. Nesbitt, Inc., Philadelphia 36, Pa.
and by American Blower Corporation
... Send for publication 258

THE AMERICAN

School Board Journal

PERIODICAL OF SCHOOL ADMINISTRATION

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- ★ Exit—Superman — *Kearney*
- ★ The Place of Art in Elementary
and Secondary Schools — *Falk*
- ★ How to Estimate Future
Public School Enrollments — *Hedlund*
- ★ Some Principles for the Organization and
Operation of a Central School Shop Service — *George*



VOLUME 120, NUMBER 2

FEBRUARY, 1950